COMMONWEALTH OF PENNSYLVANIA.

Department of Agriculture.

BULLETIN No. 163.

TABULATED ANALYSES

OF

COMMERCIAL FERTILIZERS

FROM

SAMPLES SELECTED IN ACCORDANCE WITH ACT OF MARCH 25, 1901.

BY THE

Pennsylvania Department of Agriculture.

FROM AUGUST 1, 1907 TO DECEMBER 31, 1907.

HARRISBURG, PA.:
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DEPARTMENT OF AGRICULTURE
COMMONWEALTH OF PENNSYLVANIA
VIRTUE LIBERTY AND INDEPENDENCE

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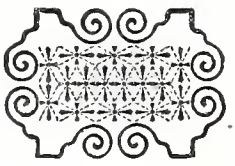

AN ACT

To regulate the manufacture and sale of commercial fertilizers.

Section 1. Be it enacted, &c., That every package of commercial fertilizer sold, offered or exposed for sale, for manurial purposes, within this Commonwealth, shall have plainly stamped thereon the name of the manufacturer, the place of manufacture, the net weight of its contents, and an analysis stating the percentage therein contained of nitrogen in an available form, of potash soluble in water, of soluble and reverted phosphoric acid and of insoluble phosphoric acid: Provided, That any commercial fertilizer sold, offered, or exposed for sale, which shall contain none of the above named constituents shall be exempt from the provisions of this act.

Section 2. That every manufacturer or importer of commercial fertilizers as specified in section one of this act shall, on or before the first day of January next ensuing, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture an affidavit showing the amount of said fertilizer sold within the Commonwealth during the last preceding year; and if the said amount shall be one hundred tons or less, he shall pay to the Treasurer of the State the sum of fifteen dollars for each and every brand of such commercial fertilizer sold within the State during the last preceding year; and if the said amount shall exceed one hundred tons, and be less than five hundred tons, he or they shall pay the sum of twenty dollars, as aforesaid; and if the said amount shall be five hundred tons or more, he or they shall pay the sum of thirty dollars, as aforesaid. If such manufacturer or manufacturers, importer or importers, shall not have made any sales within the Commonwealth during the preceding year, he or they shall pay the sum of fifteen dollars, as aforesaid. Every said manufacturer shall, at the same time, file with the Secretary of Agriculture a copy of the analysis required by section one of this act, and shall then be entitled to receive from the Secretary of Agriculture a certificate showing that the provisions of this act have been complied with.

Section 3. The Secretary of Agriculture is hereby empowered to collect samples of commercial fertilizers, either in person or by his duly qualified agent or representative, and to have them analyzed, and to publish the results for the information of the public.

Section 4. The Secretary of Agriculture, and such assistants, agents, experts, chemists, detectives and counsel as he shall duly authorize for the purpose, shall have full access, ingress and egress to all places of business, factories, farms, buildings, carriages, cars

and vessels, used in the manufacture, transportation or sale of any commercial fertilizer. They shall also have power to open any package or vessel containing or supposed to contain any commercial fertilizer, and take therefrom samples for analysis upon tendering the value of said samples.

Section 5. Any person selling, offering, or exposing for sale, any commercial fertilizer without the analysis required by section one of this act, or with an analysis stating that it contains a larger percentage of any one or more of the above named constituents that is contained therein, or for the sale of which all the provisions of section two have not been complied with, shall be guilty of misdemeanor, and on conviction shall forfeit a sum not less than twenty-five and not exceeding one hundred dollars for the first offense, and not less than two hundred dollars for each subsequent offense. It shall be the duty of the Secretary of Agriculture to enforce the provisions of this act, and all penalties, costs and fines recovered shall be paid to him or his duly authorized agent, and by him be immediately paid into the State Treasury, to constitute a special fund to be used in accordance with the provisions of section six of this act.

Section 6. The money paid into the Treasury under the provisions of this act shall constitute a special fund, from which the cost of selecting samples, making analyses, and other expenses incident to the carrying into effect the provisions of this act, shall be paid: Provided, That the total amount thus expended shall in no case exceed the amount paid into the Treasury.

Section 7. The term "commercial fertilizers," as used in this act, shall be taken to mean any and every substance imported, manufactured, prepared or sold for fertilizing or manuring purposes, except barnyard manure, marl, lime and wood ashes, and not exempt by the provisions of section one of this act.

Section 8. This act shall go into effect on and after the thirty-first day of December, one thousand nine hundred and one. All acts or parts of acts inconsistent with this act are hereby repealed, except that existing laws are to continue in force until this act goes into effect.

Approved—The 25th day of March, A. D. 1901.

LETTER OF TRANSMITTAL.

State College, Centre County, Pa.,
February 7, 1908.

Hon. N. B. Critchfield, *Secretary of Agriculture, Harrisburg, Pa.:*

Dear Sir: I have the honor to submit the following report, giving the results of analyses of the fertilizer samples received during the Fall of 1907 from the official sampling agents.

Yours respectfully,

WM. FREAR,
Chemist.

FERTILIZER ANALYSES AUGUST 1, TO DECEMBER 31, 1907.

Since August 1, 1907, there have been received from authorized sampling agents nine hundred and sixty-three fertilizer samples, of which four hundred and seventy-three were subjected to analysis, the remainder being rejected either because they represented brands analyzed last season, it being impracticable to analyze all brands received, or because they were regarded as not certainly representative of the brand whose name they bore. Preference is given to those which have not been so recently analyzed. In certain cases when two or more samples representing the same brand were received, equal portions from the several samples were united, and the composite sample was subjected to analysis.

The samples analyzed group themselves as follows: 280 complete fertilizers, furnishing phosphoric acid, potash and nitrogen; 8 dissolved bones, furnishing phosphoric acid and nitrogen; 96 rock-and-potash fertilizers, furnishing phosphoric acid and potash; 48 acidulated rock phosphates, furnishing phosphoric acid only; 36 ground bones, furnishing phosphoric acid and nitrogen, and five miscellaneous samples, which group includes substances not properly classified under the foregoing heads.

The determinations to which a complete fertilizer is subjected are as follows: (1) Moisture, useful for the comparison of analyses, for indication of dry condition and fitness for drilling, and also of the conditions under which the fertilizer was kept in the warehouse. (2) Phosphoric acid—total, that portion soluble in water, and of the residue, that portion not soluble in warm ammonia citrate solution (a solution supposed to represent the action of plant roots upon the fertilizer), which is assumed to have little immediate food value. By difference, it is easy to compute the so-called "reverted" acid, which is the portion insoluble in water but soluble in the citrate. The sum of the soluble and reverted is commonly called the "available" phosphoric acid. (3) Potash soluble in water—most of that present in green sand marl and crushed minerals, and even some of that present in vegetable materials such as cotton-seed meal, not being included because insoluble in water even after long boiling. (4) Nitrogen—This element is determined by a method which simply accounts for all present, without distinguishing between the quantities present in the several forms of ammonium salts, nitrates or organic matter. (5) Chlorin—this determination is made to afford a basis for estimating the proportion of the potash that is present as chlorid or muriate, the cheaper source. The computation is made

on the assumption that the chlorin present, unless in excess, has been introduced in the form of muriate of potash; but doubtless there are occasional exceptions to this rule. One part of chlorin combines with 1.326 parts of potash to form the pure muriate; knowing the chlorin, it is, therefore, easy to compute the potash equivalent thereto. (7) In the case of ground bone, the state of sub-division is determined by sifting through accurately made sieves; the cost of preparation and especially the promptness of action of bone in the soil depends very largely on the fineness of its particles the finer being much more quickly useful to the plant.

The law having required the manufacturer to guarantee the amount of certain valuable ingredients present in any brand he may put upon the market, chemical analysis is employed to verify the guaranties stamped upon the fertilizer sacks. It has, therefore, been deemed desirable in this report to enter the guaranty filed by the manufacturer in the office of the Secretary of Agriculture, in such connection with the analytical results that the two may be compared. An unfortunate practice has grown up among manufacturers of so wording the guaranty that it seems to declare the presence in the goods of an amount of a valuable constituent ranging from a certain minimum to a much higher maximum; thus, "Potash, 2 to 4 per cent." is a guaranty not infrequently given. In reality, the sole guaranty is for 2 per cent. The guaranteed amounts given for each brand in the following tables, are copied from the guaranties filed by the maker of the goods with the Secretary of Agriculture, the lowest figure given for any constitutent being considered to be the amount guaranteed. For compactness and because no essentially important fact is suppressed thereby, the guaranties for soluble and reverted phosphoric acid have not been given separately, but are combined into a single guaranty for available phosphoric acid; in cases where the maker's guaranty does not specifically mention available phosphoric acid, the sum of the lowest figures given by him for soluble and reverted phosphoric acid is used. The law of 1879 allowed the maker to express his guaranty for nitrogen either in terms of that element or in terms of the ammonia equivalent thereto; since ammonia is composed of three parts of hydrogen and fourteen parts of nitrogen, it is a very simple matter to calculate the amount of one, when the amount of the other is given; the amount of nitrogen multiplied by 1.214 will give the corresponding amount of ammonia, and the amount of ammonia multiplied by 0.824 will give the corresponding amount of nitrogen. In these tables, the expression is in terms of nitrogen.

The law of 1901 abolishes this alternative and requires that the guaranty shall be given in terms of nitrogen. Many manufacturers

after complying with the terms of the law, insert additional items in their guaranties, often with the result of misleading or confusing the buyer; the latter will do well to give heed to those items only that are given as the law requires and that are presented in these tables.

A summary of the analyses made this season may be presented as follows:

Summary of Analyses Made This Season.

	Complete fertilizers.	Rock and potash.	Dissolved bone.	Dissolved rock.	Ground bone.
Number of analyses,	280	96	8	48	36
Moisture, per cent.,	9.17	9.76	5.88	8.74	4.98
Phosphoric acid:					
Total, per cent.,	10.39	11.11	15.75	15.25	22.09
Soluble, per cent.,	3.94	4.73	4.56	8.43	.....
Reverted, per cent.,	4.40	5.14	6.71	5.28	.....
Insoluble, per cent.,	2.05	1.24	4.48	1.54	.....
Potash, per cent.,	3.18	2.25	.....	.....	.....
Nitrogen, per cent.,	1.39	.....	1.82	.....	3.19
Mechanical analyses of bone:					
Fine,	.....	.....	.....	.....	.....
Coarse,	.....	.....	.....	.....	.....
Commercial valuation,	$24 59	$15 83	$27 01	$14 67	$28 79
Average selling price,	22 71	16 58	22 09	14 76	28 92
Commercial value of samples whose selling price is ascertained,	24 59	15 82	27 01	14 67	28 80

The cases of departure of goods from their guaranteed composition observed this season, including only those cases in which it amounted to two-tenths per cent. or more, were as follows:

Summary of Instances of Deficiency From Guaranty.

	Complete fertilizers.	Rock and potash.	Dissolved bone.	Dissolved rock.	Ground bone.
Deficient in four constituents,	1	.....	.....	.....	.....
Deficient in three constituents,	8	.....	1	.....	.....
Deficient in two constituents,	22	6	.....	2	1
Deficient in one constituent,	79	41	1	11	9
Total number of samples in which deficiencies occur,	110	47	2	13	10

The cases of deficiency noted during the past ten seasons in goods as compared with their guaranties expressed in percentage of the total number of goods of each class analyzed, are as follows:

Percentage of Deficiency 1903-1907.

	Spring, 1903.	Fall, 1903.	Spring, 1904.	Fall, 1904.	Spring, 1905.	Fall, 1905.	Spring, 1906.	Fall, 1906.	Spring, 1907.	Fall, 1907.
Complete fertilizers, ..	37.5	37.9	39.5	49.2	35.3	37.5	45.4	39.5	39.4	33.3
Dissolved bone, ...	33.3	63.6	*	50.0	†100.0	66.6	50.0	28.5	16.6	25.0
Rock and potash, ...	32.9	43.2	50.7	35.3	30.9	33.0	42.4	40.0	43.7	49.0
Dissolved rock, ...	23.2	20.0	20.0	11.1	9.3	10.0	28.8	25.6	19.5	27.0
Ground bone, ...	33.3	.....	36.3	36.8	40.0	31.4	49.0	14.7	18.5	27.8
All classes except miscellaneous, ...	35.1	44.7	39.6	41.4	32.8	31.4	43.8	35.8	36.1	38.9

*Only two samples analyzed for which no guarantees are reported.
†Only two samples analyzed for which guarantees are recorded.

A comparison of the average composition of all samples of complete fertilizers for which guaranties are recorded with the average of the corresponding guaranties, for several seasons past including those of this season follows:

Average Composition and Guaranty Compared.

	Average composition. Per cent.	Average guaranty. Per cent.
Spring, 1902.		
Phosphoric acid:		
Total,	11.90	10.67
Available,	9.36	8.73
Potash,	3.85	3.63
Nitrogen,	1.58	1.61
Fall, 1903.		
Phosphoric acid:		
Total,	10.76	9.65
Available,	8.84	8.13
Potash,	4.09	3.90
Nitrogen,	1.33	1.29
Spring, 1904.		
Phosphoric acid:		
Total,	10.24	9.32
Available,	8.27	7.87
Potash,	4.09	3.90
Nitrogen,	1.58	1.55
Fall, 1904.		
Phosphoric acid:		
Total,	10.49	9.72
Available,	8.59	7.70
Potash,	2.87	2.81
Nitrogen,	1.25	1.29
Spring, 1905.		
Phosphoric acid:		
Total,	10.16	9.42
Available,	8.50	7.92
Potash,	4.55	4.22
Nitrogen,	1.61	1.58
Fall, 1905.		
Phosphoric acid:		
Total,	10.63	9.62
Available,	8.72	8.13
Potash,	2.90	2.42
Nitrogen,	1.26	1.20
Spring, 1906.		
Phosphoric acid:		
Total,	9.73	9.21
Available,	7.88	7.77
Potash,	4.21	3.95
Nitrogen,	1.57	1.53
Fall, 1906.		
Phosphoric acid:		
Total,	10.45	9.70
Available,	8.23	8.16
Potash,	3.12	2.95
Nitrogen,	1.32	1.31
Spring, 1907.		
Phosphoric acid:		
Total,	9.21	8.50
Available,	8.13	7.83
Potash,	4.55	4.31
Nitrogen,	1.52	1.47
Fall, 1907.		
Phosphoric acid:		
Total,	10.39	9.42
Available,	8.34	8.07
Potash,	3.18	2.72
Nitrogen,	1.39	1.29

It is of interest to note how closely the series of valuations, based upon the wholesale prices of raw materials in the principal markets during the most important buying season and upon certain average allowances for expenses and profits on the part of the mixer and jobber, coincides with the retail prices later ascertained. A comparison for several seasons past is given below:

Comparison of Selling Price and Valuation, 1902-1907.

	Selling price.	Valuation.	Excess of valuation over selling price.
Complete fertilizers:			
1902, Spring,	24.10	25.33	1.25
Fall,	21.83	23.31	1.48
1903, Spring,	24.57	24.15	—.42
Fall,	21.98	22.77	.79
1904, Spring,	24.28	24.99	.71
Fall,	21.82	22.53	.71
1905, Spring,	24.63	25.60	.97
Fall,	21.39	22.35	.96
1906, Spring,	23.55	24.76	1.21
Fall,	21.87	22.99	1.12
1907, Spring,	24.60	26.84	2.24
Fall,	22.71	24.59	1.88
Dissolved bone:			
1902, Spring,	16.50	17.35	.85
Fall,	25.30	27.08	1.78
1903, Spring,	31.17	30.87	—.30
Fall,	23.67	24.57	.90
1904, Spring,	31.50	28.42	—3.08
Fall,	24.94	27.77	. 2.83
1905, Spring,	23.83	22.70	—1.13
Fall,	24.78	25.85	1.11
1906, Spring,	24.40	22.65	—1.75
Fall,	22.06	25.33	3.27
1907, Spring,	22.28	25.08	2.80
Fall,	22.09	27.01	4.92
Rock and potash:			
1902, Spring,	16.45	15.05	—1.40
Fall,	15.97	14.46	—1.51
1903, Spring,	17.20	14.74	—2.46
Fall,	15.96	14.86	—1.10
1904, Spring,	16.47	15.46	—1.01
Fall,	15.89	14.92	—.97
1905, Spring,	16.11	15.49	—.62
Fall,	15.97	15.04	—.97
1906, Spring,	16.17	15.19	—.98
Fall,	15.76	15.06	—.70
1907, Spring,	16.94	16.53	—.41
Fall,	16.58	15.82	—.76
Dissolved rock:			
1902, Spring,	13.73	13.49	—.24
Fall,	13.54	13.70	.12
1903, Spring,	15.13	13.34	—1.79
Fall,	14.64	13.12	—1.52
1904, Spring,	14.59	14.05	—.54
Fall,	13.89	14.09	.20
1905, Spring,	13.64	13.86	.22
Fall,	12.21	13.51	1.30
1906, Spring,	13.75	12.98	—.77
Fall,	13.45	12.99	—.46
1907, Spring,	14.04	14.72	.68
Fall,	14.16	14.67	.51
Ground bone:			
1902, Spring,	28.52	26.80	—1.72
Fall,	28.09	27.51	—.58
1903, Spring,	28.67	27.25	—1.42
Fall,	27.52	27.07	—.45
1904, Spring,	28.20	27.70	—.50
Fall,	27.02	27.97	.95
1905, Spring,	29.08	26.72	—2.36
Fall,	27.70	28.70	1.00
1906, Spring,	29.02	28.23	—.79
Fall,	27.80	29.12	1.32
1907, Spring,	31.55	29.64	—1.91
Fall,	28.92	28.80	—.12

COMPLETE
Furnishing Phosphoric Acid,

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	American Agricultural Chemical Co., New York.		
1917	Complete Manure with 10 per cent. Potash,	J. L. Ward, Towanda,	3.80
1680	Dead Shot Phosphate,	Levi Berkey, Somerset,	11.10
2368	Dead Shot Phosphate,	S. S. Shelly, Manheim,	10.17
1704	High Grade Cabbage Grower,	Alex. Trent, Coleman,	7.86
2540	Northwestern H. G. General Fertilizer,	Henry Ohl, Mantz,	10.00
2539	Northwestern Ten Per Cent. Potato Fertilizer.	Henry Ohl, Mantz,	7.75
1927	Special Mixture,	W. H. Snedeker Snedekerville,	5.75
2484	Superior Compound,	J. M. Greenawalt, New Tripoli,	9.00
2532	Ten Per Cent. Potash Mixture for Potatoes,	W. F. Laudig, Ringtown,	7.35
2120	Allen's Special for Wheat and Grass,	John A. McCombs, New Salem,	9.00
2162	Allen's Standard Bone Phosphate,	Geo. W. Hewett & Son, Carmichaels,	13.20
2321	Canton Chemical Harrow Brand Crop Grower.	Wm. Gates, Kittanning,	9.80
2117	C. C. C. Canton Chemical Special Compound.	King Bros., Uniontown,	5.45
1964	Crocker's Ammoniated Bone Super Phosphate.	Thos. Lilly, California,	8.05
2324	Crocker's General Crop Fertilizer,	A. Krause & Son, Marwood,	8.35
2168	Crocker's Potato, Hop and Tobacco Fertilizer,	D. M. Parkhill, New Haven,	8.45
2354	Crocker's Universal Grain Grower,	Elias Hornberger, Ephrata,	9.40
2323	Crocker's Wheat and Corn Fertilizer,	A. Krause & Son, Marwood,	7.65
1679	Detrick's Imperial Compound,	Levi Berkey, Somerset,	12.38
1692	Detrick's K. K. K. Kangaroo Komplete Kompound.	Elmer Dickey, New Lexington,	14.15
2566	Great Eastern English Wheat Grower,	John Arnold, Homewood,	10.49
1698	Lazaretto Crop Grower,	Walker Bros., Rockwood,	15.33
2129	Milsom's Special Potash Mixture,	Gordon & Longenecker, Waynesburg,	8.70
1723	Milsom's Wheat, Oats and Barley Fertilizer.	Leechburg Hdw. Co., Leechburg,	13.03
1788	Moro-Phillips Farmers' Phosphate,	Ewing & Kinsloe, Newton Hamilton,	11.75
1684	Moro-Phillips Standard Guano,	Jeff Altfather, Berlin,	11.30
2322	Niagara Grain and Grass Grower,	Yount Bros., Kittanning,	7.55
2320	Niagara Wheat and Corn Producer,	Wm. Gates, Kittanning,	8.35
1886	Quinnipiac Mohawk Fertilizer,	J. L. Culp, Indiana,	9.23
1932	Reese's Challenge Crop Grower,	W. J. Daugherty, Meshoppen,	5.60
1876	Reese's Mayflower,	Chas. Yeckley, Eckanrode Mills,	12.25
1920	Sharpless & Carpenter No. 2 for Grain and Grass.	W. H. Crayton, Franklin,	8.25
2170	Wheeler's Royal Wheat Grower,	J. D. Eicher, Mill Run,	10.75
2121	Williams & Clark's Prolific Fertilizer,	Iden Vail, New Salem,	7.50
1619	Zell's Ammoniated Bone Super Phosphate,	J. J. Gramley, Madisonburg,	12.30
	Bradley Branch, New York.		
2208	Niagara Phosphate,	A. T. Andrews & Sons, Atlantic,	7.80
	Clark's Cove Branch, New York.		
2531	Defiance Fertilizer,	W. F. Landig, Ringtown,	10.93
	Crocker Branch, New York.		
2204	New Rival Fertilizer,	H. B. Mitchell & Co., Emlenton,	10.25
2213	Universal Grain Grower,	Borland & Felt, Rockland,	8.75
2198	Wheat and Corn Fertilizer,	Union Coal & Supply Co., Union City,	5.35
	Detrick Branch, New York.		
2391	Detrick's Kangaroo Komplete Kompound,	Thos. M. Wise, Gap,	9.35
	Maryland Branch, New York.		
2125	Maryland O. K. Ammoniated Fertilizer,	E. O. Bowman, Smithfield,	11.58
	Milsom Branch, New York.		
2221	Buffalo Guano,	J. M. Peters & Son, Coons Corners,	8.84
2206	Corn Fertilizer,	Pa. Inst. for Feeble-Minded, Polk,	12.00
2019	Milsom's Buffalo Fertilizer,	J. Y. Umberger, Harpers,	9.10
2220	Special Potash Mixture,	J. M. Peters & Sons, Coons Corners,	9.93

†Composite sample.

FERTILIZERS.

Potash and Nitrogen.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.						
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.	Found.	Guaranteed.			
5.65	2.40	.81	8.86	7.00	8.05	6.00	.53	6.96	*7.49	10.00	*3.27	3.30	39.06	35	1917
4.13	3.95	1.29	9.37	9.00	8.08	8.00	2.02	.....	2.02	2.00	.46	.41	15.42	17.00	1680
3.29	5.06	1.02	9.37	9.00	8.35	8.00	1.99	.....	*1.99	2.00	.60	.41	19.29	16.00	2368
4.40	6.01	1.70	12.11	10.00	10.41	9.00	6.59	.....	*6.59	7.00	1.45	.82	30.85	.....	1704
3.81	4.63	1.00	9.44	9.00	8.44	8.00	5.11	.....	5.11	4.00	*1.44	1.65	26.82	24.00	2540
4.47	3.41	.68	*8.56	9.00	*7.88	8.00	10.28	.....	10.28	10.00	*1.35	1.65	30.91	28.00	2539
4.59	1.22	1.97	7.78	.....	5.81	.....	3.33	4.78	8.11	.....	2.95	.....	35.86	35.00	1927
4.49	3.73	1.86	10.08	9.00	8.22	8.00	3.62	.....	*3.62	4.00	*1.48	1.65	25.80	23.00	2484
1.86	4.44	.43	6.73	6.00	6.30	5.00	7.20	2.96	10.16	10.00	2.02	1.65	32.37	28.00	2532
3.56	5.26	1.45	10.27	9.00	8.82	8.00	1.16	.....	*1.16	6.00	*.98	2.06	21.13	19.00	2120
2.92	5.74	1.49	10.15	9.00	8.66	8.00	1.77	.....	*1.77	2.00	1.79	1.65	25.46	24.00	2162
4.11	5.35	1.39	10.85	9.00	9.46	8.00	2.04	.....	2.04	1.00	1.01	.82	22.78	20.00	2321
4.56	5.11	1.89	11.56	9.00	9.67	8.00	6.08	.....	6.08	6.00	2.11	2.06	32.84	33.00	2117
4.59	5.78	.94	11.31	10.00	10.37	9.00	2.35	.....	2.35	2.00	2.47	2.47	31.05	27.00	1964
3.55	4.88	1.32	9.75	8.00	8.43	7.00	1.05	.....	1.05	1.00	1.21	.82	21.55	21.00	2324
4.19	5.50	.93	10.62	9.00	9.69	8.00	3.14	.....	3.14	3.00	2.39	2.06	30.84	28.00	2168
2.27	6.27	.78	9.32	9.00	8.54	8.00	2.11	.....	2.11	2.00	.90	.82	20.82	18.50	2354
3.74	5.41	1.50	10.65	9.00	9.15	8.00	1.77	.....	1.77	1.50	2.36	2.06	28.81	25.00	2323
4.28	3.71	1.13	9.12	9.00	*7.99	8.00	2.10	.....	2.10	2.00	.85	.82	20.42	19.00	1679
4.76	3.70	2.02	10.48	9.00	8.46	8.00	3.07	.....	3.07	3.00	*1.64	1.65	26.31	22.00	1692
4.13	4.84	1.48	10.45	9.00	8.97	8.00	1.85	.....	*1.85	2.00	.94	.82	21.88	22.00	2566
3.93	4.04	1.44	9.41	9.00	*7.97	8.00	1.93	.....	*1.93	2.00	1.95	1.65	25.75	21.00	1698
3.87	5.67	.93	10.47	.....	9.54	.....	7.22	.....	7.22	.....	1.06	.....	28.10	28.00	2129
4.20	5.21	.88	10.29	9.00	9.41	8.00	2.09	.....	2.09	2.00	.96	.82	22.32	23.50	1723
3.50	4.63	1.28	9.41	8.00	8.13	7.00	1.05	.....	1.05	1.00	.89	.82	19.72	18.25	1788
3.21	4.78	1.50	9.49	9.00	*7.99	8.00	3.92	.....	*3.92	4.00	.90	.82	22.56	21.00	1684
3.98	4.71	1.26	9.95	8.00	8.69	7.00	.93	.....	*.93	1.00	1.17	.82	21.51	.....	2322
4.11	5.61	1.64	11.36	10.00	9.72	9.00	4.27	.....	4.27	2.00	1.77	1.24	29.11	23.00	2320
3.85	4.44	1.39	9.68	8.00	8.29	7.00	1.33	.....	1.33	1.00	1.02	.82	20.80	20.00	1886
5.87	3.92	2.22	12.01	9.00	9.79	8.00	2.55	.....	2.55	2.00	1.02	.82	24.27	21.00	1932
5.36	2.92	1.18	9.46	9.00	8.28	8.00	2.19	.....	2.19	2.00	1.73	1.65	25.39	22.00	1876
3.90	3.21	1.94	9.05	8.00	7.11	7.00	1.26	.....	1.26	1.00	*.89	.82	18.68	26.00	1920
3.64	5.48	1.62	10.74	9.00	9.12	8.00	1.90	.....	*1.90	2.00	1.06	.82	22.60	21.50	2170
3.18	5.11	1.66	9.95	8.00	8.29	7.00	1.31	.....	1.31	1.00	.83	.82	20.06	18.50	2121
3.68	4.68	1.70	10.06	9.00	8.36	8.00	1.86	.....	*1.86	2.00	1.67	1.65	24.69	23.00	1619
4.59	4.13	1.31	10.03	8.00	8.72	7.00	1.53	.....	1.53	1.00	1.28	.82	23.01	21.00	2208
1.81	5.30	.96	8.07	8.00	7.11	7.00	1.12	.....	1.12	1.00	.85	.82	18.06	20.00	2531
4.41	5.31	1.05	10.77	10.00	9.72	9.00	1.90	.....	*1.90	2.00	1.65	1.24	25.98	24.00	2204
4.08	5.07	1.43	10.58	9.00	9.15	8.00	1.92	.....	*1.92	2.00	1.09	.82	22.83	24.00	2213
4.77	4.73	1.07	10.57	9.00	9.50	8.00	1.50	.....	1.50	1.50	*1.71	2.06	25.64	23.00	2198
5.43	3.51	1.21	10.15	9.00	8.94	8.00	4.85	.....	4.85	3.00	1.70	1.65	28.60	23.00	2391
4.87	4.57	1.93	11.37	9.00	9.44	8.00	2.21	.....	2.21	2.00	1.61	.82	23.24	21.00	2125
4.62	5.34	1.17	11.13	9.00	9.96	8.00	3.86	.....	*3.86	4.00	.94	.82	24.86	24.00	2221
5.09	5.24	.88	11.21	10.00	10.33	9.00	6.38	.....	6.38	2.00	*2.12	2.47	33.46	.....	2206
2.38	6.08	1.25	9.71	9.00	8.46	8.00	1.88	.....	1.88	1.50	*1.91	2.06	25.71	21.00	2019
4.40	5.80	1.04	11.24	.....	10.20	.....	7.00	.....	7.00	.....	.99	.....	28.51	27.00	2220

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
2542	Wheat, Oats and Barley Fertilizer, ...	Adam Guldner, West Penn, ...	10.19
	Moro-Phillips Branch, New York.		
2016	Moro-Phillips Standard Guano, ...	S. K. Donkel, Crosskill Mills, ...	10.60
2541	Moro-Phillips 10 Per Cent. Potato and Vegetable Manure.	D. S. Zehner, Mantz, ...	9.15
	Quinnipiac Branch, New York.		
2475	Climax Phosphate, ...	Carl & Weaver, Coopersburg, ...	11.35
2476	Mohawk Fertilizer, ...	Carl & Weaver, Coopersburg, ...	9.63
	Reese Branch, New York.		
1753	Reese's Ammoniated Bone Phosphate Mixture.	Wm. C. Ball, Media, ...	13.05
1893	Reese's Challenge Crop Grower, ...	A. G. Houtz, Greble	12.80
1747	Reese's Half and Half, ...	Benj. Holl, Doylestown, ...	10.88
1675	Reese's Mayflower, ...	A. G. Houtz, Greble, ...	10.40
1752	Reese's Standard, ...	Wm. C. Ball, Media, ...	12.38
	Sharpless & Carpenter Branch, New York.		
1738	S. and C. No. 2 for Grain and Grass, ...	J. Watson Craft, Ambler, ...	11.68
2457	Potato, Corn and Truck Guano, ...	L. A. Geiger, Joanna, ...	8.77
	Susquehanna Branch, New York.		
1836	Susquehanna Pure Bone Phosphate, ...	E. C. Tyson, Guernsey Sta., ...	12.15
	Tygert-Allen Branch, New York.		
1744	Allen's Popular Phosphate, ...	Henry Palmer, Langhorne, ...	12.80
1743	Tygert-Allen Star Bone Phosphate, ...	Henry Palmer, Langhorne, ...	10.05
	Wheeler Branch, New York.		
1766	Wheeler's Royal Wheat Grower, ...	J. D. Rosenberger, Perkasie, ...	11.34
	Williams & Clark Branch, New York.		
2214	Royal Bone Phosphate, ...	C. W. Smith, Smith's Corners, ...	10.70
	Zell Branch, New York.		
1904	Zell's Ammoniated Bone Super Phosphate,	Frank Zeigler, Myerstown, ...	9.40
	American Reduction Co., Pittsburg, Pa.		
2534	Vegetable Manure, ...	Henry Rinehart, New Ringgold, ...	2.12
	Armour Fertilizer Works, Baltimore, Md.		
1796	Armour's Special Mixture, ...	P. E. Comfort, Dillsburg, ...	9.40
1797	Armour's Wheat and Grass Special, ...	P. E. Comfort, Dillsburg, ...	7.96
1677	Wheat, Corn and Oat Special, ...	Beerits & Son, Somerset, ...	7.30
	R. S. Aucker, Shamokin, Pa.		
1957	Grade B Bone and Slaughter House Phosphate.	Geo. R. Hendricks & Sons, Selinsgrove.	6.25
2132	Grade D Bone and Slaughter House Phosphate.	W. E. Aucker, Selinsgrove, ...	5.75
1958	Grade E Bone and Slaughter House Phosphate.	Geo. R. Hendricks & Son, Selinsgrove.	6.19
1963	Pure Bone Meal with Potash, ...	Wm. Aucker, Selinsgrove, ...	4.40
	Baltimore Fertilizer Co., Baltimore, Md.		
2067	Old Honesty Your Moneys Worth, ...	I. N. Lightner, Gettysburg, ...	8.25
	Baltimore Pulverizing Co., Baltimore, Md.		
1925	Penniman's Special Guano No. 1, ...	Snedeker & Mitchell, Troy, ...	5.10
	Bartenslager, J. H., Stewartstown, Pa.		
1816	Bartenslager's Champion, ...	J. H. Bartenslager, Stewartstown, ..	9.50

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
3.19	5.22	1.05	9.46	9.00	8.41	8.00	2.07	.....	2.07	2.00	.88	.82	20.64	19.25	2542
3.25	5.48	.74	9.47	9.00	8.73	8.00	3.58	.....	*3.58	4.00	*.75	.82	21.92	19.00	2016
3.19	5.27	.58	9.04	9.00	8.46	8.00	10.06	.....	10.06	10.00	1.70	1.65	32.82	23.00	2541
5.10	3.33	1.25	9.68	9.00	8.43	8.00	1.96	.....	*1.96	2.00	1.05	1.03	21.91	20.00	2475
3.19	4.53	.83	8.55	8.00	7.72	7.00	1.16	.....	1.16	1.00	.83	.82	18.91	17.00	2476
5.89	3.52	.77	10.18	10.00	9.41	9.00	2.94	.....	*2.94	3.00	.83	.82	22.88	25.00	1753
5.05	3.27	.71	9.03	9.00	8.32	8.00	2.00	.....	2.00	2.00	.82	.82	20.34	16.00	1893
2.23	4.80	.82	*7.85	8.00	7.03	7.00	1.16	.....	1.16	1.00	.86	.82	18.03	20.00	1747
2.74	5.50	1.26	9.50	9.00	8.24	8.00	1.89	.....	*1.89	2.00	*1.57	1.65	23.82	21.00	1675
3.10	6.61	1.43	11.14	10.00	9.71	9.00	2.00	.....	2.00	2.00	*2.07	2.47	28.08	30.00	1752
2.50	5.00	1.54	9.04	8.00	7.50	7.00	1.14	.....	1.14	1.00	.90	.82	19.15	22.00	1738
2.22	5.11	.31	7.64	7.00	7.33	6.00	4.65	.....	*4.65	5.00	1.27	1.24	23.65	23.00	2457
5.52	3.03	1.19	*9.74	10.00	*8.55	9.00	2.16	.....	2.16	2.00	1.70	1.65	25.44	25.00	1836
4.84	4.33	.11	*9.28	11.00	*9.17	10.00	2.00	.....	2.00	2.00	.84	.82	21.20	21.00	1744
4.72	3.78	1.15	9.65	9.00	8.50	8.00	3.01	.....	3.01	3.00	2.07	2.06	27.85	27.00	1743
2.17	6.01	.82	9.00	9.00	8.18	8.00	2.16	.....	2.16	2.00	.87	.82	20.29	.....	1766
4.31	4.98	1.38	10.67	9.00	9.29	8.00	2.14	.....	2.14	2.00	*.97	1.03	22.48	24.00	2214
4.33	4.22	1.21	9.76	9.00	8.55	8.00	2.11	.....	2.11	2.00	*1.60	1.65	24.75	21.40	1904
1.33	4.16	4.05	9.59	7.00	*5.54	6.00	6.50	.....	6.50	6.00	*1.93	2.47	28.75	26.50	2534
5.58	2.38	.79	*8.75	10.00	*7.96	8.00	1.10	.....	1.10	1.00	.41	.41	14.18	15.00	1796
3.98	2.80	1.40	*8.27	9.00	*6.78	7.00	5.06	.....	5.06	5.00	.86	.82	22.22	20.00	1797
5.13	2.71	1.34	9.18	9.00	7.84	7.00	1.36	.....	1.36	1.00	.83	.82	19.71	20.00	1677
3.02	4.70	4.12	11.84	10.44	7.72	7.23	3.23	.....	*3 23	3 31	1.40	1.14	25.30	24.00	1957
2.47	5.71	3.31	11.49	8.38	8.18	6.65	3.20	.....	*3.20	3.35	.84	.83	22.58	21.00	2132
1.81	5.88	2.57	10.26	8.59	7.69	7.05	3.03	.....	3.03	2.59	.73	.72	20.96	20.00	1958
.46	4.46	9.56	*14.48	16.76	*4.92	6.94	6.40	.....	6.40	5.91	*1.88	2.60	30.27	26.00	1963
5.25	2.64	1.15	9.04	.....	*7.89	8.00	2.39	.....	2.39	2.00	*.39	.41	15.56	17.00	2067
1.46	6.18	2.29	9.93	.....	*7.64	8.00	1.75	.....	1.75	1.00	1.02	.82	20.65	22.00	1925
3.33	6.39	2.27	11.99	10.00	9.72	8.00	2.00	.....	2.00	2.00	*.93	1.24	23.13	20.00	1816

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Baugh & Sons Co., Philadelphia, Pa.		
2185	†Animal Bone and Potash Compound, ..	N. J. Hoffman, Geistown, ...	7.00
2395		Pennock & Brosius, Avondale, ...	
1826	†Baugh's Animal Bone and Potash Compound.	Brillinger & Swartz, Emigsville, ...	8.15
1657		A. G. Spannuth, Myerstown, ...	
2039		Madden Bros., Three Springs, ...	
2052	†Baugh's Export Bone with Potash, ...	Francis Baker, Everett, ...	5.65
1701		P. J. Blough, Hooversville, ...	
2186		N. J. Hoffman, Geistown, ...	
2266	Cook, Deardorff & Co. Special Compound for Grain and Grass.	Cook, Deardorf & Co., Dillsburg, ...	14.45
1655	†Baugh's Wheat Fertilizer for Wheat and Grass.	A. G. Spannuth, Myerstown, ...	9.20
1615		Forman & Smith, Centre Hall, ...	
1702		P. J. Blough, Hooversville, ...	
	William F. Baughman, Rinely, Pa.		
1814	Baughman's Ammoniated Bone Phosphate,	Wm. F. Baughman, Stewartstown, ..	2.33
1813	Baughman's Harvest Queen, ...	Wm. F. Baughman, Stewartstown, ..	8.80
1815	Baughman's P. and T. Special, ...	Wm. F. Baughman, Stewartstown, ..	6.50
	The Berg Co., Philadelphia, Pa.		
1728	Berg's Pure Dissolved Bone and Potash, ..	Brinton Walters, Parkesburg, ...	4.30
2383	Berg's Vigor Volo Bone and Potash, ...	S. Book & Bro., Quarryville, ...	6.45
	A. D. Birely & Sons, Ladiesburg, Md.		
2070	Birely's Plant Food, ...	J. C. Birely, Gettysburg, ...	9.30
	D. Bloeher & Co., Gettysburg, Pa.		
2064	Ammoniated Soluble Bone Phosphate, ...	J. E. Wierman, Gettysburg, ...	8.65
2065	Dissolved Raw Bone and Potash, ...	J. E. Wierman, Gettysburg, ...	10.40
1839	High Grade Super Phosphate of Bone, ...	Geo. Hoffman, Arndtsville, ...	10.15
	Bowker Fertilizer Co., New York.		
2152	Bowker's Farm and Garden Phosphate, ...	Robt. Smith, Centre Hall, ...	11.75
1974	Bowker's Potash Bone, ...	Jno. E. Eisenbrown, Knob, ...	7.33
1938	Stockbridge Special Complete Manure for Potatoes and Vegetables.	Horace Seamans, Factoryville, ...	8.65
	Elias S. Brubacher, Richland, Pa.		
1667	Wheat and Grass Special Phosphate, ...	Elias S. Brubacher, Richland, ...	10.90
	Buffalo Fertilizer Co., Buffalo, N. Y.		
1930	Farmers' Choice, ...	W. B. Kennedy, Camptown, ...	9.90
2192	Fish Guano, ...	Wrigley Co., Mahaffey, ...	9.79
429	Truck Manure, ...	H. L. Fike, Meyersdale, ...	15.55
	Cambria Fertilizer Co., Johnstown, Pa.		
2178	Standard Phosphate, ...	Wm. Reese, Wilmore, ...	6.47
	Coe-Mortimer Co., New York.		
1931	E. Frank Coe's Columbian Corn and Potato Fertilizer.	F. J. Tuksbury, Meshoppen, ...	10.20
1989	Genuine Peruvian Guano, Lohos Grade, ...	A. J. Norris & Bro., Culmerville, ..	9.85
2549	Onondaga Special Fertilizer for all Crops,	A. J. Norris & Bro., Culmerville, ..	5.53
1697	E. Frank Coe's Penna. No. 1 Grain Special for Wheat, Rye and Oats.	Ross Bruner, Rockwood, ...	8.99
2471	Peruvian Grass, Grain, Clover and Fruit Fertilizer.	B. F. Zuck, Ephrata, ...	3.64
1696	E. Frank Coe's Universal Fertilizer, ...	Ross Bruner, Rockwood, ...	11.57
	Henry Cope & Co., Lincoln University, Pa.		
2421	Ammoniated Bone Phosphate, ...	Wm. K. McClurg, Oxford, ...	5.20

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.				
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.	Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at the point of selection.	Sample number.
3.54	4.64	1.94	10.12	.....	8.18	8.00	2.38	.....	2.38	2.00	1.81	1.65	25.90	23.50	2185
														23.00	2395
														22.00	1826
5.00	3.22	1.52	9.74	.....	8.22	8.00	2.50	.....	2.50	2.00	1.89	1.65	26.54	22.00	1657
														25.00	2039
														26.00	2052
.28	4.43	10.22	14.93	11.00	4.71	.....	3.39	.....	3.39	2.00	2.38	1.65	29.74	28.00	1701
														25.50	2186
1.86	5.33	1.43	8.62	.....	7.19	7.00	5.37	.....	5.37	5.00	.88	.82	22.96	19.50	2266
														22.00	1655
									2.23	2.00	1.90	1.65	26.40	22.50	1615
5.24	3.16	1.35	9.75	.....	8.40	8.00	2.23	.....						25.00	1702
5.10	4.15	3.44	12.69	11.00	9.25	9.00	2.52	.....	2.52	2.00	1.40	1.24	26.11	20.00	1814
2.98	7.79	1.61	12.38	10.00	10.77	8.00	1.87	.....	*1.87	2.00	.96	.82	23.76	18.00	1813
4.71	4.70	3.76	13.17	11.50	*9.41	9.50	2.07	.....	*2.07	4 00	*1.41	1.65	25.89	22.00	1815
6.72	2.20	2.15	11.07	.....	*8.92	9.00	5.37	.....	5.37	5.00	*1.05	2.00	26.48	27.00	1728
3.88	4.49	6.07	14.44	.....	*8.37	18.00	4.51	.....	*4.51	9.00	*1.39	2.00	28.33	30.00	2383
5.71	2.88	3.98	12.57	9.00	8.59	8.00	.94	.80	*1.74	2.00	*1.64	1.65	26.32	18.50	2070
9.06	2.42	.30	11.78	11.00	11.48	9.00	1.40	.....	*1.40	1.50	*.39	.41	17.28	17.00	2064
7.98	2.24	1.78	12.00	12.00	10.22	10.00	2.13	.....	2.13	2.00	1.80	1.65	28.33	22.00	2065
9.02	1.01	.97	*11.00	12.00	10.03	10.00	2.06	.....	2.06	2.00	*.99	1.24	23.74	20.00	1839
4.97	3.52	1.24	9.73	9.00	8.49	8.00	2.11	.....	2.11	2.00	1.69	1.65	25.29	22.50	2152
3.01	4.13	1.73	8.87	7.00	7.14	6.00	2.73	.....	2.73	2.00	1.16	.82	21.78	20.75	1974
3.87	1.79	1.62	7.28	7.00	5.66	6.00	5.87	4.31	10.18	10.00	*3.27	3.29	38.97	35.00	1938
4.84	3.73	.89	9.46	.....	8.57	8.00	2.03	.....	2.03	2.00	.85	.82	20.92	18.24	1667
2.29	4.56	1.40	*8.25	9.00	*6.85	8.00	4.94	.....	*4.94	5.00	1.18	.82	23.71	20.00	1930
1.76	5.20	.94	*7.90	10.00	*6.96	9.00	1.81	.....	*1.81	2.00	*.61	.82	17.36	24.00	2192
2.62	5.20	1.15	*8.97	9.00	*7.82	8.00	5.77	.....	*5.77	6.00	1.82	1.65	28.41	25.00	429
3.54	3.77	2.40	9.71	7.00	7.31	6.00	3.70	.....	3.70	3.00	1.96	1.50	27.25	25.00	2178
3.88	4.92	1.76	10.56	10.50	8.80	8.50	2.68	.....	2.68	2.50	1.29	1.24	24.37	22.50	1931
.85	3.58	11.42	15.85	15.00	*4.43	9.00	1.87	2.94	4.81	4.75	3.48	2.88	37.42	35.00	1989
2.27	4.68	1.30	*8.25	9.00	*6.95	7.00	1.55	.....	1.55	1.00	1.06	.82	19.56	21.00	2543
2.95	4.53	1.79	*9.27	10.00	*7.48	8.00	1.90	.....	*1.90	3.00	.95	.82	20.29	21.00	1697
.89	3.54	9.05	13.48	12.00	*4.43	7.00	1.73	9.08	*10.81	12.00	*1.60	1.65	34.20	39.00	2471
2.93	5.30	.38	*8.61	9.50	8.23	8.00	3.53	.....	3.53	3.00	*1.60	1.65	25.33	22.00	1696
1.66	7.04	1.35	10.05	10.00	8.70	8.00	2.64	.....	2.64	2.00	.85	.82	21.54	21.00	2421

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
2422	Pure Bone Phosphate,	Wm. K. McClurg, Oxford,	3.35
2423	Wheat Grower and Complete Manure,	Wm. K. McClurg, Oxford,	6.33
	Josiah Cope & Co., Baltimore, Md.		
1857	Ammoniated Bone Phosphate,	W. H. Beaver, Schellsburg,	11.40
2497	Ammoniated Bone Phosphate,	Preston Artz, Gratz,	10.35
2390	Pure Bone Phosphate,	Jones Eavenson, Christiana,	5.70
1625	Try Me Bone Phosphate,	M. H. Grove, Fillmore,	11.66
	Jas. G. Downward & Co., Coatesville, Pa.		
1741	Special Bone Phosphate,	Geo. W. Niblock, Ambler,	8.72
1742	Special Corn Manure,	Geo. W. Niblock, Ambler,	5.80
1767	Special Potato and Tobacco Fertilizer,	T. N. Moyer, Perkasie,	10.90
1740	Special Wheat and Grass Fertilizer,	Geo. W. Niblock, Ambler,	8.95
	J. Scott Dickey Co., Lancaster, Pa.		
2375	Tobacco Stem Fertilizer,	H. S. Vogel, Manheim,	8.60
2318	†Rieker Brand,	S. N. Stulfus, Joanna,	7.50
2374		H. S. Vogel, Manheim,	
	Eureka Fertilizer Co., Perryville, Md.		
1799	Complete Compound,	J. M. Frick, Wellsville,	9.18
1950	Fish Bone and Potash,	L. Arnold, Port Royal,	7.85
1896	Imperial Bone Phosphate,	Levi Stober, Richland,	10.35
1913	Potato and Vegetable Fertilizer,	L. G. Landis, Swatara,	7.20
	W. S. Farmer & Co., Baltimore, Md.		
1624	Clyde Brand,	J. S. Walte & Co., Bellefonte,	12.55
2045	Harvest Queen Phosphate,	A. E. Sponsler, Everett,	11.30
	Farmers' Fertilizer Works, Elizabethtown, Pa.		
2033	Animal Bone and Potash,	Wenger & Wadle, Shippensburg,	7.00
2353	†Grain and Grass Special,	A. P. Riser, Ephrata,	6.85
2034		Wenger & Wadle, Shippensburg,	
2360		C. B. Gochnaer, Lititz,	
2032	†Special Compound,	Wenger & Wadle, Shippensburg,	6.10
2370		Wm. Suydman, Manheim,	
	Mahlon Fretz, Sellersville, Pa.		
1769	Standard Bone Phosphate,	Mahlon Fretz, Sellersville,	10.45
	Jos. R. Gawthrop, Kennett Square, Pa.		
2205	Champion Bone Fertilizer for Wheat and Grass.	J. H. Bell, Emlenton,	5.60
	Griffith & Boyd, Baltimore, Md.		
2278	Ammoniated Bone Phosphate,	J. F. Eaton, Hanoverdale,	9.30
2363	Ammoniated Bone Phosphate,	Bear & Long, Lititz,	9.30
2113	Ammoniated Soluble Bone,	J. F. Hogesett & Co., Uniontown,	10.10
1792	Cereal Bone Plant Food,	J. W. Hostetler, Mifflin,	8.88
1622	Harvest Queen Phosphate,	Benj. Limbert, Spring Mills,	10.75
1621	Peerless Fertilizer,	Benj. Limbert, Spring Mills,	11.40
2460	Royal Potash Guano,	S. Neathock, Joanna,	9.30
2009	Special Guano,	W. H. Heckert, Bakerstown,	14.10
	H. F. Hagar, Quakertown, Pa.		
1761	Farmers' Favorite Phosphate,	H. F. Hager, Quakertown,	10.95
1762	Panic Phosphate,	H. F. Hager, Quakertown,	8.15
	Hardy Packing Co., Chicago, Ill.		
2560	Tankage, Bone and Potash,	H. E. Hartford, Negley,	8.15

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate	Total.		Found.	Guaranteed.			
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.					
3.39	6.18	2.40	11.97	9.00	9.57	8.00	4.20	.....	4.20	2.00	2.01	1.65	30.40	26.00	2422
1.90	5.41	2.23	9.54	9.00	7.31	8.00	4.20	.....	4.20	4.00	*1.13	1.24	23.54	24.00	2423
5.18	3.65	.80	*9.63	10.00	8.83	8.00	3.28	.....	3.28	3.00	.86	.82	22.53	18.50	1857
4.08	3.78	1.72	*9.58	10.00	*7.86	8.00	2.94	.....	*2.94	3.00	1.01	.82	22.17	19.00	2497
3.06	5.13	6.60	14.79	13.50	*8.19	9.00	4.73	.....	4.73	4.00	1.90	1.85	30.99	26.00	2390
2.22	5.57	1.91	*9.70	10.00	*7.79	8.00	3.70	.....	*3.70	4.00	1.67	1.65	25.92	22.10	1625
4.02	3.17	2.28	9.47	8.50	7.19	7.00	2.85	.....	2.85	2.50	*1.12	1.24	22.03	28.00	1741
3.07	4.17	1.12	*8.36	9.00	*7.24	8.00	3.72	.....	3.72	3.50	*1.33	1.65	23.56	30.00	1742
3.93	4.63	.79	9.35	8.00	8.56	7.00	3.55	.....	*3.55	6.00	1.49	1.24	25.50	28.00	1767
4.50	3.50	2.04	10.04	8.00	8.00	7.00	3.32	.....	3.32	3.00	*1.20	1.65	23.84	30.00	1740
4.18	3.06	.36	7.60	.....	*7.24	9.00	2.54	.....	*2.54	3.00	1.38	1.24	22.40	20.00	2375
4.18	3.84	2.83	10.85	.....	*8.02	12.00	2.55	.....	*2.55	5.00	*1.16	1.65	23.22	25.00	2318
														22.50	2374
4.90	5.20	2.64	12.74	9.00	10.10	7.00	5.71	.....	5.71	5.00	.85	.82	27.18	18.50	1799
.48	7.79	3.58	11.85	9.00	8.27	8.00	1.01	.....	1.01	1.00	.42	.41	14.71	20.00	1950
3.16	6.53	2.17	11.86	10.00	9.69	8.00	1.76	.....	1.76	1.00	.91	.82	22.51	19.50	1896
4.26	5.51	4.03	13.80	9.00	9.77	8.00	3.07	.....	*3.07	4.00	*1.41	1.65	27.38	22.00	1913
4.21	4.00	1.53	9.74	9.00	8.21	8.00	1.97	.....	*1.97	2.00	.86	.82	20.68	21.00	1624
5.90	3.37	1.28	10.55	10.50	9.27	9.00	3.03	.....	3.03	3.00	1.15	1.03	24.50	20.00	2045
3.37	3.04	2.91	9.32	7.00	6.41	.....	5.47	.....	5.47	5.00	*1.52	1.65	26.05	26.00	2033
														22.00	2253
4.49	3.47	1.91	9.87	.....	*7.96	8.00	5.02	.....	5.02	4.00	.88	.82	23.97	22.00	2034
														21.00	2360
2.47	3.55	1.93	7.95	7.00	6.02	.....	2.09	.....	2.09	1.00	1.12	.82	19.68	18.00	2032
														16.00	2370
4.68	2.73	.46	*7.87	8.00	7.41	7.00	1.42	.....	1.42	1.00	.90	.82	19.03	20.00	1769
2.86	3.48	7.42	13.76	10.00	6.34	4.00	2.40	.....	2.40	1.00	2.33	1.65	29.17	27.00	2295
5.94	3.38	1.38	10.70	9.00	9.32	8.00	2.38	.....	2.38	2.00	*1.43	1.65	25.45	.....	2278
5.56	4.33	1.61	11.50	9.00	9.89	8.00	2.07	.....	2.07	2.00	*1.23	1.65	24.78	24.00	2363
4.57	4.79	2.30	11.66	8.00	9.36	7.00	1.64	.....	1.64	1.50	*.74	‡	21.52	23.00	2313
3.03	5.02	2.41	10.46	9.00	8.05	8.00	2.51	.....	2.51	2.00	.94	.82	21.85	18.00	1792
6.30	3.21	1.80	11.31	10.00	9.51	9.00	3.33	.....	3.33	3.00	1.12	1.03	25.11	.....	1622
4.53	4.59	2.17	11.29	9.00	9.12	8.00	2.19	.....	2.19	2.00	.35	.29	16.29	.....	1621
5.56	3.02	1.76	10.34	9.00	8.58	8.00	4.01	.....	4.01	4.00	1.01	.82	24.20	24.00	2460
5.76	2.19	1.05	9.00	9.00	*7.95	8.00	4.91	.....	*4.91	5.00	2.04	1.65	29.28	27.00	2009
6.13	3.29	2.40	11.82	10.00	9.42	8.00	2.70	.....	2.70	2.00	1.69	1.24	27.56	22.00	1761
6.37	3.43	1.45	11.25	10.00	9.80	8.00	2.68	.....	2.68	1.00	1.31	.82	25.60	19.00	1762
.41	5.76	2.11	8.28	.....	*6.17	8.00	1.78	.....	*1.78	2.00	*.36	1.24	13.24	24.00	2560

*Constituent falls below guaranty.
‡Guarantee nitrogen .82; ammonia 1.50, whereas the ammonia equivalent of .82 per cent. of nitrogen is 1.00 per cent.

Sample number	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Frank Hartranft, Coatesville, Pa.		
1733	Ammoniated Bone Phosphate,	John Young, E. Downingtown,	4.65
	W. S. Hastings & Son, Atglen, Pa.		
1730	†Octorora No. 1 Bone Phosphate,	W. S. Hastings & Son, Atglen,	10.95
2467		W. S. Hastings & Son, Quarryville,	
	S. M. Hess & Bro., Philadelphia, Pa.		
1673		Jerome Sholly, Myerstown,	
1649	†Ammoniated Bone Super Phosphate,	Robt. Armstrong, Petersburg,	10.65
1770		L. Allen, Doylestown,	
1661		Frank Bachman, Annville,	
1631	†Keystone Bone Phosphate,	B. F. Dively, Imler,	11.23
1663		A. B. Bomgardner, Palmyra,	
1720		R. R. McQuilkin, Apollo,	
1672	Scientific Manure,	Jerome Sholly, Myerstown,	9.05
1846		D. R. Dittsworth, Neffs Mills,	
1650	Wheat and Grass Manure,	Robt. Armstrong Petersburg,	13.65
	Hubbard Fertilizer Co., Baltimore, Md.		
1821	Climax Bone Super Phosphate,	H. W. Burg, Red Lion,	9.03
1822	Columbia Gem Phosphate,	H. W. Burg, Red Lion,	10.45
1824	Dissolved Animal Bone and Potash,	H. W. Burg, Red Lion,	10.33
2508	Farmer's I. X. L. Super Phosphate,	Wesley Selzer, Orwigsburg,	7.45
1823	Oriental Phosphate,	H. W. Burg, Red Lion,	11.35
1906	Standard Bone Super Phosphate,	J. Swope, Myerstown,	12.06
1837	Wheat Growers' Jewel,	Biglerville Wareh'se Co., Biglerville,	7.72
	M. P. Hubbard & Co., Baltimore, Md.		
1695	Harvest King Phosphate,	Peter Brough, Bakersville,	12.38
1864	Old Economy,	L. J. Myers, Mt. Union,	8.78
	International Seed Co., Rochester, N. Y.		
1748	International Grain and Grass Fertilizer,	Isaac Johnson, Doylestown,	12.45
	Jarecki Chemical Co., Sandusky, O.		
1973	Fish and Potash Potato and Tobacco Food,	Jacob Weil, Knob,	9.20
2010	High Potash Guano,	Pearce Milling Co., Gibsonia,	16.48
1971	Little Giant Guano,	Raab Bros., Midway,	9.05
	Keystone Bone Fertilizer Co., Philadelphia, Pa.		
2526	Keystone Excelsior Wheat Grower,	Edw. Yoder, Pine Grove,	10.80
1901		J. Bensing, Lickdale,	
1654	†Keystone General Manure,	J. Bensing, Myerstown,	9.00
2523		Edw. Yoder, Pine Grove,	
1750		Brandreth & Mattis, Hatboro,	
1652	†Keystone Pennsylvania Grain Mixture,	J. Bensing, Myerstown,	11.90
2527		Edw. Yoder, Pine Grove,	
2431	Keystone Acidulated Bone and Potash,	N. T. Sassaman, Ottsville,	8.05
	Lancaster Chemical Co., Lancaster, Pa.		
2357		B. F. Zuck, Ephrata,	
2229	†Dewey Brand for Tobacco and Spring Crops.	C. J. Bushey, Dillsburg,	8.60
2464		I. B. Myers, Leola,	
2228	Hard Times Fertilizer,	C. J. Bushey, Dillsburg,	11.15
2472	Pure Dissolved Animal Bone and Potash,	B. F. Zuck, Ephrata,	8.53
2465	Rising Sun Animal Bone,	I. B. Myers, Leola,	6.75
2103	Wheat and Grass Fertilizer,	C. J. Bushey, Dillsburg,	9.90
	E. H. Lippy & Son, Littlestown, Pa.		
2084	Lippy's Bone, Blood and Potash,	A. P. Lippy, Littlestown,	11.30
2085	Lippy's Crop Grower,	A. P. Lippy, Littlestown,	9.00

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.				
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.	Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at the point of selection.	Sample number.
5.61	4.71	3.79	*14.11	15.00	10.32	10.00	3.30	.....	3.30	1.50	*1.88	2.06	30.74	25.00	1733
4.03	5.41	.80	10.24	.....	9.44	8.00	2.13	.....	*2.13	3.00	1.65	1.65	25.80	23.00	1730
														23.00	2467
4.16	4.50	1.22	9.88	9.00	8.66	8.00	2.29	.....	2.29	2.00	*1.59	1.65	25.06	21.50	1673
														23.50	1649
														.....	1770
5.51	2.74	1.15	9.40	9.00	8.25	8.00	1.14	.....	1.14	1.00	.86	.....	19.89	18.50	1661
														20.00	1631
														19.50	1663
2.75	4.35	.93	8.03	7.00	7.10	6.00	4.59	.....	*4.59	5.00	1.30	1.24	23.95	23.00	1720
														23.50	1672
														24.00	1846
4.81	3.27	1.37	9.45	9.00	8.08	8.00	1.93	.....	*1.93	2.00	.92	.82	20.79	21.00	1650
5.62	2.50	.85	8.97	.....	8.12	7.00	4.07	.....	4.07	4.00	.85	.82	22.54	20.00	1821
1.34	7.49	.52	9.35	.....	8.83	8.00	1.70	.....	1.70	1.00	.74	.41	19.81	17.00	1822
5.48	2.58	1.35	9.41	.....	8.06	8.00	3.23	.....	3.23	2.00	*.81	.82	21.66	19.00	1824
2.12	5.68	1.63	9.43	.....	*7.80	8.00	3.51	.....	3.51	2.00	1.94	1.65	27.04	21.50	2503
5.28	2.72	1.84	9.84	.....	8.00	8.00	1.43	.....	1.43	1.00	1.19	.82	21.94	18.00	1823
2.18	4.74	2.29	9.21	.....	*6.92*	8.00	3.59	.....	3.59	3.00	1.87	1.65	26.00	21.65	1906
5.32	3.15	1.40	9.87	.....	*8.47	9.00	3.23	.....	3.23	2.00	*1.01	1.24	23.07	22.00	1837
7.76	2.22	.80	10.78	10.00	9.98	9.00	3.28	.....	3.28	3.00	1.03	.82	25.06	22.00	1695
6.30	2.68	.45	9.43	9.00	8.98	8.00	2.17	.....	2.17	2.00	.49	.41	16.46	17.50	1864
6.43	4.09	.82	11.34	11.00	10.52	10.00	2.30	.....	*2.30	2.50	1.36	1.24	25.95	26.00	1748
3.68	4.97	1.30	9.95	9.00	8.65	8.00	4.03	.....	4.03	4.00	1.55	.82	26.58	24.00	1973
3.31	5.19	.89	9.39	9.00	8.50	8.00	5.21	.....	*5.21	7.00	1.82	.82	28.57	27.00	2010
3.41	4.78	1.41	9.60	8.00	8.19	7.00	.67	.45	1.12	1.00	.93	.82	20.22	22.00	1971
.44	5.97	3.66	10.07	8.00	*6.41	7.00	3.95	.....	*3.95	5.00	.91	.82	21.58	21.50	2526
.80	6.56	2.44	9.80	9.00	*7.36	8.00	3.19	.....	3.19	3.00	1.30	1.24	23.28	22.00	1901
														22.00	1654
														22.00	2523
.86	6.27	2.75	9.88	9.00	*7.13	8.00	2.52	.....	2.52	2.00	*.76	.82	19.80	24.00	1750
														20.00	1652
.77	6.20	2.03	9.00	9.00	*6.97	8.00	7.74	.....	*7.74	8.00	1.72	.82	29.25	19.00	2527
														26.00	2431
2.32	5.81	1.89	10.02	9.00	8.13	8.00	4.03	.....	4.03	4.00	1.37	1.24	25.11	22.00	2357
														22.00	2229
														22.50	2464
1.22	6.87	1.12	9.21	9.00	8.09	8.00	3.10	.....	3.10	2.00	.48	.41	16.41	16.50	2228
1.34	5.95	2.19	*9.48	11.00	*7.29	10.00	6.46	.....	6.46	5.00	1.70	1.65	28.45	28.00	2472
2.07	5.84	3.22	11.13	11.00	*7.91	10.00	2.53	.....	2.53	2.00	*2.35	2.47	28.95	26.50	2465
2.72	6.70	1.71	11.13	9.00	9.42	8.00	2.83	.....	2.83	2.00	*.59	.82	18.01	18.50	2103
5.06	3.61	1.31	9.98	.....	8.67	8.00	1.89	.....	*1.89	2.00	.90	.82	21.40	19.00	2084
2.07	5.65	1.28	8.40	.....	7.12	7.00	1.55	.....	1.55	1.50	.45	.41	14.04	17.00	2085

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	D. Levan, Lebanon, Pa.		
2285	†Levan's Bone and Potash Compound,	F. Shirk, Sinking Springs,	7.65
2516		Jno. K. Groh, Pine Grove,	
2346	†Levan's Lebanon Special Fertilizer,	J. S. Brinser, Middletown,	10.43
2512		Frank Snyder, Friedensburg,	
2286	Levan's Wheat and Grass Fertilizer,	J. S. Brinser, Middletown,	5.75
	Lister's Agricultural Chemical Works, Newark, N. J.		
1900	Ammoniated Dissolved Bone Phosphate,	J. M. Groh, Lickdale,	10.60
1724	Corn and Potato Fertilizer,	W. C. Thorne, Pomeroy,	11.72
1922	Potato Manure,	J. T. Manly, East Canton,	10.45
2135	Potato Manure,	Abe Lauver, Globe Mills,	11.42
1820	Reliance,	W. L. Meitzel, Winterstown,	10.00
1819	Special Wheat Fertilizer,	W. L. Meitzel, Winterstown,	14.30
1811	Special 10 Per Cent. Potato,	Jas. Fulton & Sons, Stewarstown,	11.02
1923	Success Fertilizer,	J. T. Manley, East Canton,	9.19
1884	U. S. Super Phosphate,	Frank Douglass Indiana,	11.40
	Mapes' Formula and Peruvian Guano Co., New York.		
2564	Fruit and Vine Manure,	W. A. Freed, Homewood,	8.80
	D. B. Martin Co., Philadelphia, Pa.		
2249	Corn and Cereal Special,	Greencastle Elevator Co., Greencastle,	9.73
1969	†Dissolved Organic Compound,	A. E. Walker, Midway,	10.55
1716		A. J. Steele, Latrobe,	
2235		Cook, Deardorf & Co., Dillsburg,	
1970	One, Eight and Four,	A. E. Walker, Midway,	11.29
1985	†Pure Bone and Potash,	J. H. Thompson, Harmarsville,	5.20
2554		A. E. Walker, Burgettstown,	
	E. Mehring, Brueeville, Md.		
1952	Twenty-Six Dollar Phosphate,	A. F. Raffensberger, Spruce Hill,	12.27
	Michigan Carbon Works, Detroit, Mich.		
1936	Homestead, a Bone Black Fertilizer,	A. F. Siegfried, Clarks Summit,	10.47
	Miller Fertilizer Co., Baltimore, Md.		
1810	Ammoniated Dissolved Bone,	G. B. Murphy, Keys,	7.20
1809	Special Potato Fertilizer,	E. J. Markey, York,	8.97
1802	W. G. Phosphate,	Henry Linebaugh, Dover,	9.18
	Nassau Fertilizer Co., New York.		
2020	Nassau Practical,	J. A. Wagner, Bellegrove,	10.48
2313	Plow Brand,	Jas. S. Heffner & Son, Kutztown,	8.70
	National Fertilizer Co., Bridgeport, Conn.		
1918	Chittenden's Tobacco Special, with Carbonate of Potash.	Cranmer & Musselman, Monroeton,	7.40
	G. Ober & Sons Co., Baltimore, Md.		
1818	Independent Ammoniated Super Phosphate,	A. W. Trout, Stewartstown,	9.05
1817	Special Plant Food,	A. W. Trout, Stewartstown,	10.35
	Patapsco Guano Co., Baltimore, Md.		
1955	Blood, Bone and Potash,	John Harley, E. Salem,	10.60
1779	Sea Gull Guano,	W. J. Hayes, Belleville,	13.20
1978	Patapsco Special Wheat Compound,	R. J. Mathers, Morganza,	9.15
	Pennsylvania Ammonia and Fertilizer Works, Harrisburg, Pa.		
2230	Dauphin Brand,	J. B. Spera, Dillsburg,	6.90
	Pennsylvania Fertilizer Co., Buffalo, N. Y.		
1882	Banner Phosphate,	J. R. Henderson, Indiana,	11.32

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
2.47	5.34	.92	*8.73	9.00	*7.81	8.00	5.35	.....	5.35	5.00	*1.57	1.65	26.71	22.00	2285
														21.00	2516
1.41	5.64	1.44	8.49	.....	*7.05	8.00	2.33	.....	2.33	2.00	*1.76	2.06	23.90	18.50	2346
														19.75	2512
1.58	6.45	1.61	9.64	9.00	8.03	8.00	5.91	.....	5.91	5.00	*.71	.82	23.53	19.00	2286
3.94	3.21	3.96	11.11	9.00	*7.15	8.00	1.79	.....	1.79	1.50	2.34	2.06	27.90	24.00	1900
5.05	3.22	1.98	10.25	9.00	8.27	8.00	3.10	.....	3.10	3.00	1.97	1.65	27.64	23.00	1724
4.54	2.64	4.72	11.90	9.00	*7.18	8.00	6.85	.....	*6.85	7.00	3.56	3.30	39.44	34.00	1922
5.15	3.37	1.71	10.23	9.00	8.52	8.00	6.57	.....	*6.57	7.00	3.36	3.30	38.24	.....	2135
4.53	4.27	1.77	10.57	9.00	8.80	8.00	2.22	.....	2.22	2.00	1.39	1.03	24.43	20.00	1820
5.61	2.66	2.19	10.46	9.00	8.27	8.00	3.05	.....	3.05	3.00	1.79	1.65	27.01	24.00	1819
4.65	4.06	1.40	10.11	9.00	8.71	8.00	10.26	.....	10.26	10.00	1.82	1.65	34.34	30.00	1811
3.47	4.67	4.26	12.40	10.00	*8.14	9.00	2.17	.....	2.17	2.00	1.45	1.24	25.00	22.00	1923
4.49	3.95	1.24	9.68	9.00	8.44	8.00	2.15	.....	2.15	2.00	1.08	1.03	22.28	24.00	1884
.55	5.30	2.10	7.95	7.00	5.85	5.00	1.87	9.43	11.30	10.00	2.44	1.65	37.38	35.00	2564
5.15	3.97	2.75	11.87	.....	9.12	8.00	2.46	.....	2.46	2.00	*1.61	1.65	26.54	24.00	2249
														23.00	1969
4.56	4.52	2.37	11.45	.....	9.08	9.00	2.00	.....	2.00	2.00	1.06	1.03	23.08	23.00	1716
														19.00	2235
3.52	4.43	2.37	10.32	.....	*7.95	8.00	3.89	.....	*3.89	4.00	.98	.82	23.44	24.00	1970
.10	5.27	18.40	23.77	16.00	5.37	.....	1.06	.....	*1.06	2.50	1.96	1.65	29.70	28.00	1985
														27.00	2554
6.21	5.91	3.84	15.96	12.00	12.12	11.00	1.46	.....	*1.46	1.50	1.41	.82	28.42	.....	1952
7.11	1.14	2.02	10.27	9.00	8.25	8.00	1.63	.....	1.63	1.50	2.15	2.06	27.32	22.00	1936
4.51	4.01	.62	*9.14	9.50	8.52	8.00	2.28	.....	2.28	2.00	1.80	1.65	25.64	20.50	1810
2.11	4.75	.92	*7.78	8.50	*6.86	7.00	5.25	.....	5.25	5.00	1.01	.82	22.78	21.50	1809
4.05	3.26	.56	*7.87	8.50	7.31	7.00	1.31	.....	1.31	1.00	.55	.41	17.08	16.00	1802
5.05	3.92	.97	9.94	9.00	8.97	8.00	5.91	.....	*5.91	6.00	*2.36	2.47	32.78	26.50	2020
3.65	4.33	1.86	9.84	9.00	*7.98	8.00	2.06	.....	2.06	2.00	1.69	1.65	24.82	21.00	2313
.19	3.58	2.53	6.30	4.00	3.77	3.00	.....	4.90	*4.90	5.50	4.71	4.53	38.73	33.00	1918
7.65	2.09	.28	10.02	9.00	9.74	8.00	1.47	.....	1.47	1.00	*.81	.82	21.38	20.00	1818
8.13	2.21	.75	11.09	10.00	10.34	9.00	5.20	.....	5.20	5.00	1.68	1.65	30.58	25.00	1817
3.11	5.23	1.29	9.63	9.00	8.34	8.00	2.04	.....	2.04	2.00	.60	.41	19.46	16.75	1955
3.66	4.83	1.39	9.88	9.00	8.49	8.00	1.18	.....	1.18	1.00	.85	.82	24.11	.....	1779
6.67	3.12	3.71	*13.50	14.00	9.79	9.00	2.66	.....	2.66	2.50	1.94	1.85	29.86	28.00	1978
4.08	7.94	3.41	15.43	12.00	12.02	10.00	2.44	.....	2.44	2.00	1.29	1.24	28.44	22.00	2230
2.90	5.31	2.00	10.21	9.00	8.21	8.00	.98	.....	*.98	1.00	.85	.41	19.77	18.00	1882

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
1712	Four Fold,	E. Frazier, Sprucetown,	14.55
1713	Phosphate and Potash,	E. Frazier, Sprucetown,	13.40
1883	Vegetable and Vine,	J. R. Henderson, Indiana,	8.35
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.		
2359	Levering's Ammoniated Bone,	John B. Bucher, Clay,	8.93
2248	Levering's Harvest Queen,	J. H. Leiter & Bro., Greencastle,	8.00
1858	Piedmont Economy,	John G. Simpson, Huntingdon,	8.90
2463	Piedmont Perfection Guano,	M. M. Wenger, Bareville,	7.18
2341	Piedmont Plow Brand,	W. S. Davis, Hopewell,	7.00
	Pittsburg Provision and Packing Co., Pittsburg, Pa.		
2164	Keystone Fertilizer,	W. J. Stewart, Brownsville,	5.75
2329	Pure Bone with Potash,	B. Way, Freeport,	5.05
	Pollock Fertilizer Co., Baltimore, Md.		
1616	Owl Brand Guano,	J. F. Smith, Centre Hall,	10.78
1682	Special Wheat Grower,	Urias D. Rayman, Berlin,	12.42
1861	Pollock's Special Wheat Grower,	S. H. Beaver, Aitch,	11.83
	Pugh & Lyons, Oxford, Pa.		
2416	Bone Phosphate,	S. R. Dickey & Co., Oxford,	3.72
	Ramsburg Fertilizer Co., Frederick, Md.		
2080	Ramsburg Excelsior Plant Food,	Nelson Study, Littlestown,	10.73
2082	Ramsburg Ammoniated Bone Phosphate,	Nelson Study, Littlestown,	11.30
2081	Ramsburg Queen Phosphate,	Nelson Study, Littlestown,	10.00
	Rasin Monumental Co., Baltimore, Md.		
1897	Rasin's Best Wheat and Grass Producer,	Elias S. Brubacher, Richland,	10.55
1646	Rasin's Empire Guano,	J. W. Harper, Alexandria,	12.07
1708	Rasin's United Grain Grower,	John N. Kauffman, Holsopple,	13.03
	M. N. Riser, Elizabethtown, Pa.		
1775	Corn and Wheat Special,	M. P. Yoder, Belleville,	11.24
	Reading Bone Fertilizer Co., Reading, Pa.		
2058	Dissolved Animal Matter,	A. E. Sponsler, Everett,	9.57
1648	Farmers' Bone and Potash for Corn, Grain and Grass.	H. K. Stouffer, Spruce Creek,	5.45
2173	Reading Harvest Queen,	H. T. Beatty, Saltsburg,	9.45
2024	Reading Bone Special for all Crops,	John Wengert, Ono,	7.70
2408	Reading Special Raw Bone Mixture,	Jno. C. Rhoades & Co., Chester Heights.	9.20
2174	Special Grain and Grass Producer,	H. T. Beatty, Saltsburg,	6.25
	Rodgers & Hubbard Co., Middletown, Conn.		
2207	Oats and Top Dressing,	Pa. Inst. for Feeble-Minded, Polk,	4.40
	Sanera Natural Guano Co., Philadelphia, Pa.		
1839	Guano Direct from Sanera Coys,	J. R. Meck, Lickdale,	4.25
	Schaal-Sheldon Fertilizer Co., Erie, Pa.		
2327	Schaal's Corn and Potato,	P. A. Drain, Sarver,	9.60
2326	Empire,	P. A. Drain, Sarver,	8.60
	The Scott Fertilizer Co., Elkton, Md.		
2311	Grain Special,	Joel Liebensperger, Fleetwood,	11.45
2310	Sure Growth Super Phosphate,	Joel Liebensperger, Fleetwood,	8.78

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
3.75	5.88	1.83	11.46	9.00	9.63	8.00	1.25	.....	*1.25	2.00	.83	.82	21.60	.....	1712
3.80	5.38	2.16	11.34	11.00	*9.18	10.00	7.69	.....	7.69	2.00	.96	.....	28.36	.....	1713
1.43	5.13	1.65	*8.21	11.00	*6.56	10.00	4.30	.....	*4.30	8.00	*.63	.82	20.04	28.00	1883
4.91	3.05	1.32	9.28	.....	*7.96	9.00	3.01	.....	3.01	3.00	1.10	.82	22.70	21.00	2359
6.62	2.29	.23	9.14	.....	8.91	8.00	2.29	.....	2.29	2.00	.83	.82	21.46	20.00	2248
7.45	2.53	.33	10.31	.....	*9.98	10.00	2.33	.....	2.33	2.00	.35	.25	16.74	17.00	1858
5.36	2.79	1.15	9.30	.....	8.15	8.00	3.47	.....	*3.47	5.00	2.26	1.65	28.99	24.50	2463
5.79	2.96	.68	9.43	9.00	8.75	8.00	2.81	.....	2.81	2.00	*1.56	1.65	25.38	16.00	2341
3.42	4.61	2.41	*10.44	11.00	*8.03	9.00	1.61	.....	1.61	1.50	*1.37	1.65	22.94	.....	2164
2.32	4.38	6.77	*13.47	14.00	*6.70	12.00	3.68	.....	3.68	3.00	3.29	2.47	35.17	27.00	2329
2.23	4.43	1.34	8.00	8.00	*6.66	7.00	1.47	.....	1.47	1.50	.49	.41	13.89	18.00	1616
4.33	3.74	1.07	9.14	.....	8.07	8.00	2.02	.....	2.02	2.00	.85	.82	20.41	18.00	1682
5.14	3.35	1.14	9.63	.....	8.49	8.00	2.09	.....	2.09	2.00	.87	.82	21.09	19.00	1861
.97	5.82	10.00	16.79	11.00	6.79	6.00	2.84	.....	*2.84	5.00	2.09	1.65	29.90	27.00	2416
6.26	4.30	1.38	11.94	11.00	10.56	9.00	2.19	.....	2.19	2.00	*1.63	1.65	27.58	22.00	2080
3.17	6.81	3.05	13.03	12.00	*9.98	10.00	1.74	.....	*1.74	2.00	.74	.82	18.57	19.00	2082
1.06	6.99	2.51	10.56	10.00	8.05	8.00	1.67	.....	1.67	1.00	1.20	.41	22.00	17.00	2081
4.81	3.50	3.46	11.77	9.00	8.31	8.00	3.20	.....	3.20	3.00	*1.15	1.24	24.52	20.00	1897
6.15	2.36	3.33	11.84	9.00	8.51	8.00	.93	1.17	2.10	2.00	1.84	1.65	27.39	21.45	1646
3.53	5.55	2.98	12.06	9.00	9.08	8.00	1.65	.....	*1.65	2.00	.83	.82	21.94	23.00	1708
2.78	4.84	2.20	9.82	.....	*7.62	8.00	2.35	.....	2.35	2.00	.96	.82	21.08	20.00	1775
2.44	6.88	2.32	*11.64	12.00	*9.32	10.00	.60	.....	.60	.....	.95	.82	19.99	17.00	2058
3.03	6.88	1.82	11.73	10.00	9.91	8.00	3.90	.....	*3.90	4.00	.92	.82	24.79	21.00	1648
2.62	5.97	1.57	10.16	8.00	8.59	6.00	4.86	.....	4.86	2.00	*.89	1.03	24.13	23.00	2173
2.80	5.71	.74	9.25	9.00	8.51	7.00	5.00	.....	5.00	5.00	1.72	1.65	27.74	24.00	2024
4.63	4.69	1.71	11.03	10.00	9.32	8.00	4.29	.....	4.29	3.00	*1.19	1.24	26.17	26.00	2408
2.77	5.99	1.89	10.65	9.00	8.76	7.00	4.70	.....	4.70	3.00	1.16	.82	25.56	24.00	2174
.03	3.97	6.34	10.34	.....	4.00	.....	8.04	.....	8.04	.....	7.35	.....	56.16	.....	2207
.06	1.18	8.04	*9.28	10.00	1.24	.....	5.32	.....	5.32	5.00	1.01	.82	19.95	30.00	1899
3.57	5.59	1.15	10.31	9.00	9.16	8.00	2.61	.....	*2.61	4.00	*1.51	1.65	25.29	27.00	2327
3.42	4.77	1.56	9.75	8.00	8.19	7.00	1.40	.....	1.40	1.00	1.01	.82	20.77	28.00	2326
7.70	1.90	.36	9.96	.....	*9.60	10.00	3.71	.....	*3.71	4.00	.57	.41	18.86	18.50	2311
4.33	4.60	2.66	11.59	.....	*8.93	10.00	3.49	.....	3.49	3.00	2.18	1.65	30.26	22.00	2310

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
2308	Wheat and Grass Grower,	Joel Liebensperger, Fleetwood,	12.25
	M. L. Shoemaker & Co., Philadelphia, Pa.		
1903	†Echo Super Phosphate,	S. Z. Gettle, Myerstown,	7.19
1737		Hillis & Taggart, Norristown,	
2282		Aaron Bicksler, Fredericksburg,	
1902	†New Jersey Special for Wheat and Clover.	S. Z. Gettle, Myerstown,	7.20
1745		John L. Fabian, Langhorne,	
1909		J. B. Shaffer, Palmyra,	
1907	Special No. 2 Wheat Fertlizer,	J. B. Shaffer, Palmyra,	9.83
2455	Swift Sure Dissolved Bone,	Chas. V. Geiger, White Bear,	3.92
1908	†Swift Sure Guano for Fall Trade,	J. B. Shaffer, Palmyra,	10.08
1746		John L. Fabian, Langhorne,	
2022		J. B. Shaffer, Swatara,	
	Chas. A. Sickler & Bro., Wilkes-Barre, Pa.		
1935	Vegetable and Vine Fertilizer,	C. S. Richards, Bald Mount,	7.35
	Southern Fertilizer Co., York, Pa.		
1678	†Ammoniated Dissolved Bone,	Oscar Coleman, Somerset,	9.03
1827		Ernst & Bupp, York,	
2212	†Farmers' Choice Brand,	D. C. Emery, Grove City,	10.78
2101		Geo. Nell, East Berlin,	
2451		Harry Baxter, Gap,	
2453	Queen of the Harvest,	Harry Baxter, Gap,	9.30
1832	Royal Wheat and Grass Grower,	H. N. Bream, York Springs,	7.70
	Swift & Co., Chicago, Ill.		
2330	Swift's Complete Fertilizer,	C. T. Wills & Co., Parnassus,	4.93
2231	Swift's Super Phosphate,	C. T. Wills & Co., Parnassus,	5.80
	J. M. Templin, Honeybrook, Pa.		
2466	No. 4 Atlas Brand Fertilizer,	J. M. Templin, Leola,	8.85
	I. P. Thomas & Sons Co., Philadelphia, Pa.		
1751	Farmers' Choice Bone Phosphate,	H. Jarrett, Hatboro,	9.72
2291	†Potato Fertilizer,	E. S. Risser, Lawn,	9.15
2441		E. D. Snyder, Brooklyn,	
2140	†Superior Super Phosphate,	Jerry Koch, Middle Creek,	8.83
2261		West & West, Waynesboro,	
2530	Special Potato Manure,	David J. Horn, Ringtown,	6.88
2025	†Champion Bone Phosphate,	Edward Shuey, Sand Hill,	10.92
1847		Wm. Miller, Neffs Mills,	
2141		Jerry Koch, Middle Creek,	
1763	†Tip Top Raw Bone Super Phosphate,	Aaron C. Snyder, Perkasie,	9.70
1946		Wm. V. Shirk, Oakland Mills,	
	Trenton Bone Fertilizer Co., Trenton, N. J.		
2437	A. D. Bone,	W. S. Worthington, New Hope,	3.60
2436	Excelsior,	W. S. Worthington, New Hope,	3.00
2435	Trenton Grain Manure,	W. S. Worthington, New Hope,	4.19
	F. W. Tunnell & Co., Philadelphia, Pa.		
2409	Complete Super Phosphate,	Brinton & Worth, West Chester,	8.90
1749	Potato and Grain Manure,	Jones & Paxson, Hatboro,	10.85
	Tuscarora Fertilizer Co., Baltimore, Md.		
1997	Standard Phosphate,	R. J. Dunn, Wyland,	9.35
2382	Tuscarora Trucker,	S. H. Snavely & Son, Manheim,	9.00
	J. E. Tygert Co., Philadelphia, Pa.		
1658	Prolific Phosphate,	Adam Brown, Myerstown,	6.45

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.				
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.	Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at the point of selection.	Sample number.
4.50	5.46	.15	10.11	.....	*9.96	10.00	2.52	.....	2.52	2.00	.56	.41	17.43	17.00	2308
4.84	4.00	4.72	13.56	9.00	8.84	7.00	2.64	.....	2.64	1.50	1.51	1.24	26.88	22.00	1903
														24.00	1737
														19.00	2282
5.05	4.17	4.40	13.62	.....	9.22	8.00	2.42	.....	2.42	2.00	1.56	1.03	27.14	19.50	1902
														25.00	1745
														20.00	1909
8.52	2.24	3.65	14.41	.....	10.76	10.00	1.53	.....	1.53	1.00	.90	.41	24.80	19.00	1907
8.83	3.34	5.30	17.47	13.00	12.17	10.00	.92	.....	.92	.....	2.51	1.65	34.35	32.00	2455
5.76	3.65	3.01	12.42	.....	9.41	8.00	6.05	.....	6.05	5.00	2.12	1.65	33.19	25.00	1908
														27.00	1746
														25.00	2022
.98	3.46	1.63	*6.07	10.00	*4.44	8.00	3.60	.....	*3.60	10.00	*.60	1.65	16.72	30.00	1935
7.32	3.48	1.58	12.38	11.00	10.80	10.00	2.68	.....	2.68	2.50	1.83	1.65	29.58	21.00	1678
														24.00	1827
														23.00	2212
5.86	3.87	.92	10.65	10.00	9.73	9.00	2.13	.....	2.13	2.00	.85	.82	22.45	19.50	2101
														19.00	2451
4.92	5.41	1.28	11.61	11.00	10.33	10.00	2.13	.....	2.13	2.00	*1.21	1.24	24.84	21.00	2453
2.63	6.11	2.12	10.86	9.00	8.74	8.00	1.61	.....	1.61	1.00	.78	.41	20.74	15.50	1832
3.85	4.57	2.17	*10.59	11.00	8.42	8.00	1.77	.....	1.77	1.00	1.56	1.25	24.44	22.00	2330
4.18	4.49	2.19	*10.86	12.00	8.67	8.00	1.92	.....	*1.92	2.00	1.85	1.65	26.35	24.00	2331
4.53	6.07	.89	11.49	11.00	10.60	10.00	3.87	.....	*3.87	4.00	1.90	1.65	30.10	26.00	2466
6.53	3.11	.46	10.10	10.50	9.64	9.50	2.07	.....	2.07	2.00	1.83	1.65	27.02	30.00	1751
6.78	3.00	.89	10.67	10.00	9.78	9.00	6.05	.....	6.05	6.00	1.76	1.65	30.96	24.50	2291
														28.00	2441
4.56	3.09	.41	8.06	8.00	7.65	7.00	1.45	.....	1.45	1.00	.89	.82	19.30	16.75	2140
														18.00	2261
6.02	1.96	1.10	9.08	8.00	7.98	7.00	8.78	.....	*8.78	10.00	1.65	1.65	31.40	28.00	2530
7.56	2.57	.97	11.10	11.00	10.13	10.00	3.78	.....	*3.78	4.00	1.86	1.65	29.71	24.00	2025
														24.00	1847
														18.80	2141
6.48	2.49	.51	9.48	9.00	8.97	8.00	3.72	.....	*3.72	4.00	*2.21	2.47	29.74	28.00	1763
														27.00	1946
1.60	4.91	5.65	12.25	.....	*6.60	8.00	2.99	.....	*2.99	3.00	2.06	1.65	27.60	26.50	2437
2.57	5.31	3.44	11.32	.....	7.88	.....	2.18	.....	2.18	.....	1.24	.....	23.24	20.00	2436
1.91	5.00	4.12	11.03	.....	*6.91	8.00	3.51	.....	3.51	3.00	1.84	1.65	26.76	24.00	2435
.59	7.44	2.85	10.88	9.00	8.03	8.00	1.78	.....	1.78	1.75	.83	.82	20.56	22.00	2409
.54	5.90	1.72	8.16	8.00	*6.44	7.00	4.11	.....	4.11	4.00	*1.35	1.65	23.08	28.00	1749
5.97	3.47	.49	*9.93	10.00	9.44	8.00	2.32	.....	2.32	2.00	1.67	1.65	26.05	24.00	1997
5.95	2.25	.59	*8.79	9.00	8.20	8.00	2.00	5.19	7.19	7.00	4.41	4.12	44.19	36.00	2382
.55	7.23	.73	8.51	8.00	7.78	7.00	1.12	.....	1.12	1.00	.50	.41	17.82	16.50	1658

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Union Chemical Works, North Wales.		
1758	†General Crop Grower,	Henry K. Mohn, Quakertown,	9.30
2014		J. Merkey, Myerstown,	
2281	High Grade Vegetable Guano,	J. S. Gibble, Palmyra,	7.50
	Virginia Carolina Chemical Co., Richmond, Va.		
2489	Fish, Bone and Potash,	G. D. Robinson, Markelsville,	11.06
2078	National Ammoniated Guano,	J. C. Birely, New Oxford,	10.70
2096	V. C. C. Co.'s Special Compound for Wheat.	E. Hoffman, East Berlin,	8.15
2271	V. C. C. Co.'s Special Wheat and Grass Grower.	Allison & Fogelsonger, Shippensburg.	9.75
2098	V. C. C. Co.'s Standard Corn and Grain Grower.	E. Hoffman, East Berlin,	11.15
2079	V. C. C. Co.'s Standard Crop Grower,	J. C. Birely, New Oxford,	10.63
	F. K. Walt Co., Supplee, Pa.		
2401	Ammoniated Bone Phosphate,	R. A. Richards & Co., Mendenhall,	6.55
2284	XX Flesh and Animal Bone Phosphate,	J. L. Nissley, Middletown,	10.60
	W. E. Whann & Co., William Penn, Pa.		
1754	Chester Valley Available Ammoniated Super Phosphate.	Milton Johnson, Quakertown,	5.25
1756	†Chester Valley Raw Bone Super Phos-	Milton Johnson, Quakertown,	8.00
1791	phate.	Francis Horner, Mifflin,	
1942	Chester Valley Special Potato and Truck Fertilizer.	Francis Horner, Mifflin,	10.10
	Robt. A. Wooldridge Co., Baltimore, Md.		
1943	Wooldridge Chieftain Bone Stock Phosphate.	Wm. V. Shirk, Oakland Mills,	10.48
1944	Wooldridge Farmers' Favorite Cereal Compound.	Wm. V. Shirk, Oakland Mills,	10.28
	The Wooldridge Co., Baltimore, Md.		
2358	F. F. V. Flesh and Fish Vegetator,	E. O. Hacker, Lincoln,	6.60
	York Chemical Works, York, Pa.		
1637	†Ammoniated Raw Bone,	J. Scott Miller, Fishertown,	9.85
2494		Jacob Fleisher, New Bloomfield,	
1790		Wm. Sloterback, Mifflintown,	
1636	†Dempwolf's Half and Half Fertilizer,	J. Scott Miller, Fishertown,	8.55
2023		W. H. Rapp, Swatara,	
2007	Harvest Queen,	Dunlap Bros., Canonsburg,	10.50
2105	†Dempwolf's Plow Brand,	N. H. Spangler, Rossville,	9.75
2269		Goehenour & Cook, Dillsburg,	
1607	†Dempwolf's Prosperity,	Elmer Musser, Pine Grove Mills,	11.65
2275		Look & Early, Linglestown,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
5.58	2.82	.77	9.17	9.00	8.40	8.00	2.31	.....	2.31	2.00	.87	.82	21.04	20.00	1758
														.....	2014
5.33	2.80	2.98	11.11	8.00	8.13	7.00	7.10	.....	7.10	7.00	*3.15	3.30	38.01	32.00	2281
5.46	2.56	3.16	11.18	9.00	8.02	8.00	2.89	.....	*2.89	3.00	*1.42	1.65	25.12	‡19.45	2489
5.14	2.95	3.24	11.33	9.00	8.09	8.00	3.61	.....	*3.61	4.00	.94	.82	23.68	18.00	2078
2.97	5.09	4.31	12.37	9.00	8.06	8.00	.....	.85	*.85	1.00	.97	.82	21.21	18.50	2096
4.26	3.67	2.77	10.70	8.00	7.93	7.00	1.58	.....	*1.58	2.00	.59	.41	19.40	16.50	2271
4.30	3.95	2.69	10.94	9.00	8.25	8.00	1.66	.....	*1.66	2.00	.55	.41	16.22	16.50	2098
5.84	3.09	3.57	12.50	9.00	8.93	8.00	2.25	.....	2.25	2.00	*1.54	1.65	26.40	18.50	2079
2.18	4.63	2.26	9.07	9.00	*6.81	8.00	3.03	.....	3.03	1.00	*.43	.82	15.70	20.00	2401
3.47	5.15	1.63	10.25	.....	8.62	8.00	3.53	.....	3.53	3.00	*.85	1.65	22.71	25.00	2284
2.91	5.06	1.15	9.12	.....	7.97	7.00	2.69	.....	*2.69	3.00	1.07	1.00	21.82	22.50	1754
3.67	4.28	2.37	10.32	9.50	*7.95	8.00	3.47	.....	3.47	3.00	2.00	1.99	27.91	31.00	1756
														.....	1791
4.79	4.05	.74	9.58	.....	8.84	7.00	6.23	.....	*6.23	7.00	*2.45	2.47	32.13	27.50	1942
2.80	5.63	1.68	10.11	9.50	8.43	8.00	2.09	.....	2.09	2.00	1.86	1.65	25.92	21.00	1943
2.40	5.33	1.53	9.26	8.00	7.73	7.00	2.11	.....	2.11	2.00	.59	.41	18.88	16.50	1944
3.47	3.77	1.30	8.54	8.50	7.24	7.00	6.20	.....	*6.20	7.00	*2.43	2.47	31.66	30.00	2358
1 91	6.58	3.52	12 01	11.00	*8.49	10.00	3.20	.....	*3.20	4.00	*1.27	1.65	24.91	25.00	1637
														25.00	2494
2.55	5.15	.61	8.31	7.50	7.70	7.00	1.12	.....	1.12	1.00	.88	.82	18.87	17.50	1790
														17.50	1636
														19.00	2023
3.19	5.45	1.25	9.89	8.50	8.64	8.00	2.33	.....	2.33	2.00	*.53	.82	16.58	23.00	2007
3.39	5.24	.97	9.60	9.00	8.63	8.00	2.11	.....	2.11	2.00	*1.53	1.65	24.39	22.50	2105
														22.50	2269
3.57	5.38	1.16	10.11	9.50	*8.95	9.00	2.82	.....	*2.82	3.00	*.54	.82	17.26	.....	1607
														19.75	2275

*Constituent falls below guaranty. ‡Price in carload lots.

ROCK AND POTASH

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	American Agricultural Chemical Co., New York.	
1635	Susquehanna Alkaline Bone Phosphate, ...	John S. Bender, Reynoldsdale, ...
1613	Boss Potash Fertilizer, ...	Forman & Smith, Centre Hall, ...
2506	Fruit Tree Invigorator, ...	A. A. Schwalen, Sec., Hegins, ...
1640	Gem Alkaline Phosphate, ...	S. F. Diehl, Bedford, ...
2018	High Grade Bone and Potash, ...	J. Y. Umberger, Harpers, ...
1872	High Grade Potash Mixture, ...	D. J. Davis, Ebensburg, ...
1629	Penn Alkaline Phosphate, ...	L. S. Imler, Imler, ...
2163	Tygert Allen's Star Soluble Bone and Potash.	Geo. W. Hewett & Son, Carmichaels, ...
2124	Maryland Bono Super Phosphate, ...	E. O. Bowman, Smithfield, ...
1639	Maryland Bono Super Phosphate, ...	S. F. Diehl, Bedford, ...
1641	Maryland Linden Super Phosphate, ...	M. W. Bridenbaugh, Waterside, ...
2167	Milsom's Dissolved Bone and Potash, ...	Ohio Pyle Co., Ohlo Pyle, ...
2356	Gem Alkaline Phosphate, ...	Elias Hornberger, Ephrata, ...
1786	Moro-Phillips Wheat Special, ...	Ewing & Kinsloe, Newton Hamilton, ...
1887	Quinnipiac Dissolved Bone and Potash, ...	J. L. Culp, Indiana, ...
2444	Read's High Grade Special, ...	Lott Shoemaker, Windham, ...
2443	Read's 10 and 8, ...	Lott Shoemaker, Windham, ...
1919	Sharpless & Carpenter Soluble Bone and Potash.	W. H. Crayton, Franklin, ...
1614	Susquehanna Alkaline Bone Phosphate, ...	Forman & Smith, Centre Hall, ...
1959	Susquehanna Grain and Grass Producer, ..	Geo. R. Hendricks & Son, Selinsgrove, ...
2003	Wheeler's Wheat and Clover Fertilizer, ...	Jno. W. Seaman, Washington, ...
1921	Williams & Clark Dissolved Bone and Potash.	T. H. Crayton, Le Roy, ...
	Detrick Branch, New York.	
2241	Detrick's Bone and Potash Mixture 16x4, ..	Daniel Hunsucker, Chambersburg, ...
	Great Eastern Branch, New York.	
1757	Great Eastern Soluble Bone and Potash, ..	J. Welrboch, Quakertown, ...
	Maryland Branch, New York.	
2258	Maryland Alkaline Bone, ...	Nickodemus & Hockman, Waynecastle, ...
	Moro-Phillips Branch, New York.	
2504	High Grade Bone and Potash, ...	A. A. Schwalen, Sec., Heglns, ...
2017	Moro-Phillips Wheat Special, ...	S. K. Donkal, Crosskill Mills, ...
	Reese Branch, New York.	
1894	Reese's Grass and Grain, ...	H. G. Houtz, Greble, ...
	Sharpless & Carpenter Branch, New York.	
2456	Soluble Bone and Potash, ...	L. A. Gelger, Joanna, ...
	Standard Branch, New York.	
2037	Standard Bone and Potash, ...	C. E. Starr, Three Springs, ...
	Susquehanna Branch, New York.	
2244	Alkaline Bone Phosphate, ...	Geo. Walker & Co., Chambersburg, ...
1662	Grain and Grass Producer, ...	Mary E. Boyer, Palmyra, ...
	Zell Branch, New York.	
2264	Zell's Dissolved Bone Phosphate and Potash.	O. F. Arnold, Dillsburg, ...
	Armour Fertilizer Works, Baltimore, Md.	
1647	Armour's Wheat and Clover, ...	B. F. Kauffman, Spruce Creek, ...
	Baltimore Fertilizer Co., Baltimore, Md.	
2066	Honest Bone Phosphate, ...	I. N. Lightner, Gettysburg, ...

†Composite sample.

FERTILIZERS.

Acid and Potash.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
8.77	5.96	3.06	1.02	*10.04	11.00	*9.02	10.00	2.01	.....	2.01	2.00	14.02	16.00	1635
9.73	3.35	4.47	1.37	9.19	9.00	7.82	8.00	4.96	.....	*4.96	5.00	16.00	19.00	1613
10.60	5.74	4.34	.84	*10.92	11.00	10.08	10.00	7.13	.....	*7.13	8.00	19.95	18.50	2506
6.23	.92	5.63	.47	7.02	7.00	6.55	6.00	3.07	.....	3.07	3.00	12.50	13.00	1640
13.17	8.46	4.17	.56	13.19	13.00	12.63	12.00	5.04	.....	5.04	5.00	19.88	18.00	2018
7.24	7.05	3.28	.98	11.31	11.00	10.33	10.00	9.03	.....	*9.03	10.00	22.28	22.00	1872
6.80	1.27	5.39	1.33	7.99	7.00	6.66	6.00	3.18	.....	3.18	3.00	13.10	13.50	1629
11.55	4.35	7.46	.47	12.28	11.00	11.81	10.00	1.84	.....	*1.84	2.00	15.49	18.00	2163
8.50	6.56	4.26	.67	11.49	11.00	10.82	10.00	2.14	.....	2.14	2.00	15.42	16.00	2124
11.05	7.10	3.11	.72	*10.93	11.00	10.21	10.00	2.01	.....	2.01	2.00	15.15	15.00	1639
12.75	7.20	3.60	.83	*11.63	12.00	*10.80	11.00	1.95	.....	*1.95	2.00	15.34	18.00	1641
10.60	5.35	5.69	.80	11.84	11.00	11.04	10.00	2.39	.....	2.39	2.00	15.74	17.00	2167
6.00	.64	5.99	.55	7.18	7.00	6.63	6.00	2.76	.....	*2.76	3.00	12.28	13.00	2356
11.05	5.16	4.64	1.56	11.36	11.00	*9.80	10.00	2.09	.....	2.09	2.00	14.79	15.75	1786
12.08	3.78	6.48	1.25	11.51	11.00	10.26	10.00	1.83	.....	*1.83	2.00	14.58	17.00	1887
9.90	7.13	4.93	.62	*12.68	13.00	12.06	12.00	5.06	.....	5.06	5.00	19.34	20.00	2444
9.50	7.98	2.72	.61	11.31	11.00	10.70	10.00	7.81	.....	*7.81	8.00	21.24	21.00	2443
9.15	6.62	3.87	1.42	11.91	11.00	10.49	10.00	1.78	.....	*1.78	2.00	15.10	17.00	1919
10.03	4.85	4.68	1.65	11.18	11.00	*9.53	10.00	2.07	.....	2.07	2.00	14.55	16.60	1614
9.80	8.52	3.63	1.50	13.65	13.00	12.15	12.00	3.12	.....	3.12	3.00	17.88	17.00	1959
11.85	4.00	7.12	.49	11.61	11.00	11.12	10.00	1.85	.....	*1.85	2.00	14.94	21.00	2003
9.93	5.83	4.81	1.25	11.89	11.00	10.64	10.00	1.67	.....	*1.67	2.00	14.91	15.50	1921
10.65	6.34	5.05	.74	12.13	12.00	11.39	11.00	1.94	.....	*1.94	2.00	15.64	14.50	2241
12.57	4.33	6.01	.57	*10.91	11.00	10.34	10.00	2.04	.....	2.04	2.00	14.67	.....	1757
12.78	7.74	5.09	1.28	14.11	13.00	12.83	12.00	3.20	.....	3.20	3.00	18.31	15.50	2258
11.50	8.94	3.32	.83	13.09	13.00	12.26	12.00	5.22	.....	5.22	5.00	19.92	18.00	2504
10.48	4.13	6.03	.46	10.62	11.00	10.16	10.00	2.38	.....	2.39	2.00	14.83	15.00	2017
9.70	2.91	6.42	.93	*10.26	11.00	*9.33	10.00	2.29	.....	2.29	2.00	14.14	16.00	1894
10.20	3.70	6.70	.82	11.22	11.00	10.40	10.00	1.98	.....	*1.98	2.00	14.66	14.00	2456
11.70	4.76	5.35	.90	11.01	11.00	10.11	10.00	1.99	.....	*1.99	2.00	14.61	16.50	2037
10.08	7.11	3.36	.87	11.34	11.00	10.47	10.00	2.09	.....	2.09	2.00	15.25	14.00	2244
10.55	8.07	3.97	1.50	13.54	13.00	12.04	12.00	3.01	.....	3.01	3.00	17.65	19.00	1662
12.04	6.68	5.16	1.35	13.19	12.00	11.84	11.00	2.00	.....	2.00	2.00	16.27	15.75	2264
10.70	7.18	2.32	.52	*10.02	12.00	*9.50	10.00	4.94	.....	*4.94	5.00	17.34	17.00	1647
5.25	3.61	4.53	.73	8.87	.....	8.14	7.00	1.25	.....	1.25	1.00	12.22	15.00	2066

*Constituent falls below guaranty.

Sample number.	Manufaoturer and Brand.	From Whom Sample Was Taken.
	Baltimore Pulverizing Co., Baltimore, Md.	
1854	Special Fall Mixture,	A. J. Bowser, Mill Creek,
	Baugh & Sons Co., Philadelphia, Pa.	
1833	†High Grade Potash Mixture,	D. B. Myers, Idaville,
1725		Brinton Walters, Pomeroy,
1915		A. G. Spannuth, Mt. Zion,
	A. D. Bierly & Sons, Ladiesburg, Md.	
2069	Special Bone and Potash,	J. C. Birely, Gettysburg,
	Bowker Fertilizer Co., New York.	
1968	Bowker's Super Phosphate with Potash for Grain and Grass.	B. F. McClure & Bro., Burgettstown,
1853	Bowker's Wheat Grower,	B. F. Fink, Huntingdon,
2151	Bowker's Super Phosphate with Potash,	W. H. Weitensaul, Hartleton,
	Coe-Mortimer Co., New York.	
1784	E. Frank Coe's H. G. Dissolved Bone and Potash.	T. J. Novmeyer, Lewistown,
	Henry Cope & Co., Lincoln University, Pa.	
2425	H. G. Soluble Bone and Potash,	Wm. K. McClurg, Oxford,
2426	Soluble Bone and Potash, Regular Grade,	Wm. K. McClurg, Oxford,
	Josiah Cope & Co., Baltimore, Md.	
1693	H. G. Soluble Bone and Potash,	J. C. Ankeny, Somerset,
	J. Scott Diekey Co., Lancaster, Pa.	
2376	C. P. Brand.	H. S. Vogel, Manheim,
	Eureka Fertilizer Co., Perryville, Md.	
1953	Alkaline Bone and Potash,	L. Arnold, Oriental,
2142	Alkaline Bone and Potash,	Geo. Zimmerman, Centreville,
2293	5 Per Cent. Alkaline Bone and Potash,	S. W. Beckley, Freeport Mills,
	W. S. Farmer & Co., Baltimore, Md.	
2044	H. G. B. and P. Phosphate,	A. E. Sponsler, Everett,
	Griffith & Boyd, Baltimore, Md.	
1793	Special Grain Grower,	J. W. Hostetler, Mifflin,
	W. S. Hastings & Son, Atglen, Pa.	
1729	Soluble Bone and Potash,	W. S. Hastings & Sons, Atglen,
	S. M. Hess & Bro., Philadelphia, Pa.	
1632	†Soluble Bone and Potash,	B. F. Dively, Imler,
1606		Oscar Stover, Boalsburg,
1670		S. Fackler, Swatara,
	Hubbard Fertilizer Co., Baltimore, Md.	
1838	Special Mixture of Bone and Potash,	Biglerville Warehouse Co., Biglerville,
	M. P. Hubbard & Co., Baltimore, Md.	
2093	Soluble Bone and Potash,	Wm. Emlet, Abbottstown,
	Jarecki Chemical Co., Sandusky, O.	
2546	Dissolved Bone with Potash,	Pearce Milling Co., Gibsonia,
	Keystone Bone Fertilizer Co., Philadelphia, Pa.	
2481	Keystone 10 and 2,	Henry P. Brown, Slatington,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
5.75	.96	6.47	1.26	8.69	.....	*7.43	8.00	1.42	.....	1.42	1.00	11.77	14.00	1854
9.70	6.27	3.95	.89	11.11	.....	10.22	10.00	4.01	.....	4.01	4.00	16.90	17.00	1833
													15.50	1725
													16.50	1915
11.74	5.16	4.62	1.51	11.29	9.00	9.78	8.00	4.77	.....	*4.77	5.00	17.47	16.00	2069
11.65	2.88	7.93	1.10	11.91	11.00	10.81	10.00	1.65	.....	*1.65	2.00	14.60	19.00	1968
11.70	3.64	6.01	1.34	*10.99	11.00	*9.65	10.00	1.19	.....	1.19	1.00	13.51	17.00	1853
8.75	3.78	7.11	.89	11.69	9.00	10.89	8.00	1.17	.....	*1.17	3.00	14.17	14.00	2151
9.88	3.60	5.98	1.83	11.41	11.00	9.58	8.00	4.57	.....	*4.57	5.00	17.04	17.00	1784
3.15	.84	7.85	1.47	10.16	10.00	*8.69	9.00	4.40	.....	4.40	4.00	15.79	16.50	2425
5.70	.94	8.67	1.58	11.19	11.00	*9.61	10.00	2.25	.....	2.25	2.00	14.30	14.50	2426
9.50	2.98	7.00	1.20	11.18	.....	*9.98	10.00	4.91	.....	*4.91	5.00	17.40	17.00	1693
8.25	1.04	7.09	3.64	11.77	.....	*8.13	12.00	1.28	.....	*1.28	2.00	13.03	14.00	2376
6.10	.53	8.43	3.93	12.89	12.00	*8.96	10.00	4.34	.....	4.34	2.00	16.80	20.00	1953
7.58	.51	8.50	3.84	12.85	12.00	*9.01	10.00	1.91	.....	*1.91	2.00	14.28	14.00	2142
6.95	.64	9.34	4.66	14.64	12.00	9.98	9.00	2.23	.....	*2.23	5.00	15.66	17.00	2293
9.20	6.02	4.00	.87	*10.89	11.00	10.02	10.00	4.92	.....	*4.92	5.00	17.68	18.00	2044
11.20	5.64	3.89	1.75	11.28	11.00	*9.53	10.00	3.22	.....	3.22	2.00	15.86	13.50	1793
7.62	3.73	5.69	1.88	11.30	.....	*9.42	10.00	2.02	.....	2.02	2.00	14.37	14.00	1729
10.53	2.37	7.76	1.13	11.26	11.00	10.13	10.00	2.04	.....	2.04	2.00	14.47	16.00	1632
													15.50	1606
													16.50	1670
11.59	6.43	4.43	.50	11.36	.....	10.86	10.00	3.50	.....	*3.50	4.00	16.75	17.00	1838
9.55	7.04	3.22	.64	*10.90	11.00	10.26	10.00	2.31	.....	2.31	2.00	15.22	13.50	2093
9.05	5.43	6.35	1.32	13.10	11.00	11.78	10.00	3.48	.....	*3.48	4.00	17.60	20.50	2546
8.64	3.32	6.60	68	*10.60	11.00	*9.92	10.00	2.13	.....	2.13	2.00	14.37	13.55	2481

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
2525	Keystone 8 and 5,	Edw. Yoder, Pine Grove,
2430	†Keystone Grain and Grass Manure,	N. T. Sassaman, Ottsville,
2480		Henry P. Brown Slatington,
	E. H. Lippy & Son, Littlestown, Pa.	
2086	Bone and Potash Phosphate,	A. P. Lippy, Littlestown,
	Lister's Agricultural Chemical Works, Newark, N. J.	
1844	Alkaline Bone No. 1,	S. L. Stryker, Petersburg,
2496	Lister's Alkaline Bone,	Elmer E. Fitting, Halifax,
2172	Lister's Animal Bone and Potash No. 1,	G. W. Martin & Co., Saltsburg,
2461	Lister's Animal Bone and Potash No. 1,	Geo. Bard, Mechanicsburg,
	E. Mehring, Bruceville, Md.	
1951	Potash and Phos. Acid,	A. F. Raffensberger, Spruce Hill,
	Miller Fertilizer Co., Baltimore, Md.	
1803	Clinch Phosphate,	Henry Linebaugh, Dover,
	Nassau Fertilizer Co., New York.	
1691	Royal Mixture,	Levi Long, Rockwood,
	G. Ober & Sons Co., Baltimore, Md.	
2227	Dissolved Bone Phosphate and Potash,	G. W. Altland, York,
2226	Standard Potash Compound,	G. W. Altland, York,
	Patapsco Guano Co., Baltimore, Md.	
1840	Baltimore Soluble Phosphate,	E. C. Thomas, Gettysburg,
1627	Patapsco Soluble Bone and Potash,	L. H. Musser, Fillmore,
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.	
1961	Grain and Grass Grower,	F. A. Bogaman, Port Treverton,
2063	Levering's I. X. L. Crop Grower,	H. D. and C. C. Bream, Gettysburg,
1785	Piedmont Special Potash Mixture,	John Shively, Yeagertown,
1781	Piedmont Success,	R. T. Close, Milroy,
2137	Special Crop Grower,	Steininger Bros., Middleburg,
	The Pollock Fertilizer Co., Baltimore, Md.	
1633	Dissolved Bone and Potash,	S. B. Moses, Osterburg,
1605	Pollock's Soluble Bone Phosphate,	Elmer Ross, Lemont,
1617	Pollock's Victor Bone Phosphate,	J. F. Smith, Centre Hall,
	Rasin-Monumental Co., Baltimore, Md.	
1612	Rasin's Half and Half Mixture,	J. H. and S. E. Weber, Linden Hall,
1644	Rasin's Wheat Potash Mixture,	J. W. Harper, Alexandria,
	Sanera Natural Guano Co., Camden, N. J.	
1898	Sanera Mixture,	J. R. Meck, Jonestown,
	Scott Fertilizer Co., Elkton, Md.	
2309	Soluble Bone and Potash,	J. Liebensperger, Fleetwood,
1668	Tip Top and Potash,	Elias S. Brubacher, Richland,
	Southern Fertilizer Co., York, Pa.	
2102	†Special Brand for all Crops,	Geo. Nell, East Berlin,
1681		Oscar Coleman, Somerset,
2450		Harry Baxter, Gap,
	F. W. Tunnell & Co., Philadelphia, Pa.	
2015	Phosphate and Potash,	N. R. Yost, Myerstown,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
7.85	2.41	6.86	1.07	10.34	9.00	9.27	8.00	4.76	.....	*4.76	5.00	16.59	16.00	2525
6.68	.64	5.71	1.66	8.01	8.00	*6.35	7.00	2.15	.....	2.15	1.00	‡11.85	19.00	2430
													16.15	2480
10.35	3.19	7.57	1.58	12.34	.....	10.76	10.00	2.04	.....	2.04	2.00	15.19	15.00	2086
10.32	8.67	4.07	1.11	13.85	13.00	12.74	12.00	6.05	.....	6.05	5.00	21.19	17.40	1844
10.15	4.91	5.54	1.93	12.38	11.00	10.45	10.00	1.84	.....	*1.84	2.00	15.10	16.00	2496
8.20	4.76	4.82	1.44	11.02	10.00	9.58	9.00	4.45	.....	*4.45	5.00	16.92	20.00	2172
7.90	3.23	5.40	1.60	10.23	10.00	*8.63	9.00	5.01	.....	5.01	5.00	16.70	21.50	2461
10.85	7.50	5.10	2.25	14.85	13.00	12.60	12.00	1.70	.....	*1.70	2.00	16.93	.....	1951
11.12	3.57	6.49	.64	*10.70	11.50	10.06	10.00	2.08	.....	2.08	.....	14.46	14.00	1803
8.62	1.30	6.81	.97	9.08	9.00	8.11	8.00	4.86	.....	*4.86	5.00	15.69	16.75	1691
9.10	9.30	2.06	.07	11.43	11.00	11.36	10.00	2.16	.....	2.16	2.00	15.92	13.75	2227
10.50	11.58	1.65	.04	13.27	13.00	13.23	12.00	5.12	.....	5.12	5.00	20.53	17.00	2226
9.95	4.53	6.87	1.63	13.03	12.00	11.40	11.00	2.17	.....	2.17	2.00	15.96	14.50	1840
10.38	5.11	4.95	1.20	11.26	11.00	10.06	10.00	2.09	.....	2.09	2.00	14.83	.....	1627
5.00	4.49	1.63	.42	6.54	.....	6.12	6.00	3.90	.....	3.90	3.00	§13.50	16.00	1961
10.23	5.57	5.02	.22	10.81	.....	10.59	10.00	2.95	.....	*2.95	3.00	15.79	17.00	2063
11.10	10.25	1.59	.10	11.94	.....	11.84	10.00	1.73	.75	*2.48	5.00	16.89	17.00	1785
8.95	6.27	2.20	.21	8.68	.....	*8.47	9.00	5.45	.....	5.45	5.00	16.90	17.15	1781
5.00	4.41	1.35	.20	5.96	.....	*5.76	6.00	3.14	.....	3.14	3.00	12.36	14.50	2137
8.97	2.80	7.34	.55	*10.69	11.00	10.14	10.00	4.34	.....	4.34	4.00	16.69	17.50	1633
11.39	2.67	7.31	1.00	*10.98	11.00	*9.98	10.00	2.03	.....	2.03	2.00	14.37	14.00	1605
9.78	4.41	5.29	1.15	10.85	10.00	9.70	9.00	1.16	.....	1.16	1.00	13.51	16.00	1617
10.24	3.65	3.98	1.57	9.20	7.00	7.63	6.00	2.12	.....	*2.12	3.00	13.06	14.00	1612
12.90	4.09	5.10	1.37	10.56	9.00	9.19	8.00	4.77	.....	*4.77	5.00	16.86	15.60	1644
6.50	.13	1.35	8.93	10.41	10.00	1.48	.....	5.07	.....	5.07	5.00	13.86	24.00	1898
12.35	9.92	3.04	1.67	14.03	.....	12.96	12.00	4.46	.....	*4.46	5.00	19.88	17.75	2309
12.59	2.42	7.53	2.51	12.46	.....	*9.95	11.00	2.60	.....	2.60	2.00	15.40	15.00	1668
9.25	4.74	5.49	.75	*10.98	11.00	10.23	10.00	4.94	.....	*4.94	6.00	17.68	18.00	2102
													19.50	1681
													16.75	2450
11.55	5.30	7.83	.61	*13.74	14.00	13.13	13.00	6.03	.....	6.03	6.00	20.89	19.00	2015

*Constituent falls below guaranty. ‡There is present .33 per cent. of nitrogen; guaranteed .82.
§Contains .27 per cent. nitrogen; guaranteed, .21.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Tuscarora Fertilizer Co., Baltimore, Md.	
1998	Bone and Potash,	R. J. Dunn, Wyland,
	J. E. Tygert Co., Philadelphia, Pa.	
2493	Soluble Bone Potash,	Geo. W. Bird, Newport,
	Union Chemical Works, North Wales, Pa.	
1759	Complete Super Phosphate,	Henry Mohn, Quakertown,
1760	Super Phosphate and Potash,	Henry Mohn, Quakertown,
	Virginia-Carolina Chemical Co., Richmond, Va.	
2491	Special Bone and Potash,	G. D. Robinson, Markelville,
2035	V. C. C. Co.'s Standard Bone and Potash,	Allison & Fogelsonger, Shippensburg,
2099	V. C. C. Co.'s Union Super Phosphate,	E. Hoffman, East Berlin,
	Robt. A. Wooldridge Co., Baltimore, Md.	
1610	Wooldridge No. 1 Bone and Potash, 6x3,	Wesley Tate, Bellefonte,
1773	Wooldridge Old Sledge Phosphate,	R. E. Brindle, Belleville,
2224	No. 1 Bone and Potash, 6x3,	J. W. Glatfelter, Rossville,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
11.15	7.89	1.99	.45	*10.33	12.00	*9.88	10.00	2.21	.....	2.21	2.00	14.89	20.00	1998
9.07	6.99	3.59	.77	11.35	11.00	10.58	10.00	2.09	.....	2.09	2.00	15.30	13.00	2493
8.90	5.54	4.14	.94	10.62	8.00	9.68	7.00	5.30	.....	5.30	1.00	17.79	18.00	†1759
10.13	5.26	4.26	.90	10.42	9.00	9.52	8.00	3.00	.....	3.00	2.00	15.26	15.00	1760
10.25	5.07	4.16	1.74	*10.97	11.00	*9.23	10.00	3.34	.....	*3.34	5.00	15.69	‡13.75	2491
11.40	5.10	5.24	1.31	11.65	11.00	10.34	10.00	2.02	.....	2.02	2.00	14.97	14.50	2035
11.90	2.27	3.90	1.11	7.28	7.00	6.17	6.00	2.79	.....	*2.79	3.00	12.39	13.00	2099
6.25	1.04	5.90	.34	7.28	.....	6.94	6.00	3.03	.....	3.03	3.00	12.78	.....	1610
11.98	6.40	5.64	1.05	13.09	13.00	12.04	12.00	4.78	.....	*4.78	5.00	19.12	18.75	1773
5.45	1.04	5.89	1.34	8.27	.....	6.93	6.00	3.01	.....	3.01	3.00	13.06	14.00	2224

*Constituent falls below guaranty.
‡Price in car load lots.
†Contains .12 per cent. nitrogen, guaranteed .41 per cent.

DISSOLVED BONE

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken
	Baugh & Sons Co., Philadelphia, Pa.	
1656	†Pure Dissolved Animal Bone, ...	A. G. Spannuth, Myerstown, ...
2083		Nelson Study, Littlestown, ...
	Eureka Fertilizer Co., Perryville, Md.	
1850	Dissolved Animal Bone, ...	A. M. Kelly, Huntingdon. .....
	Griffith & Boyd, Baltimore, Md.	
2062	Pure Dissolved Animal Bone, ...	H. J. Van Dyke, Gettysburg, ...
	Lister's Agricultural Chemical Works, Newark, N. J.	
1992	Celebrated Ground Bone, Acidulated, ...	A. J. Norris & Bro., Culmerville, ...
	D. B. Martin Co., Philadelphia, Pa.	
2396		Wilson & Mendenhall, Toughkennamon,..
2236	†Crop Producer, ...	Cook, Deardorf & Co., Dillsburg, ...
2507		A. F. Kimmell, Orwigsburg, ...
	M. N. Riser, Elizabethtown, Pa.	
1774	†Crop Grower, ...	M. P. Yoder, Belleville, ...
2381		M. N. Riser, Manheim, ...
2380	Dissolved Bone, ...	M. N. Riser, Manheim, ...
	York Chemical Works, York, Pa.	
1732	Dempwolf's Pure Dissolved Bone, ...	W. S. Hastings & Son, Atglen, ...

†Composite sample.

FERTILIZERS.

Acid and Nitrogen.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Nitrogen in 100 Pounds.		Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.						
				Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.			
5.20	1.29	12.29	6.88	20.46	.....	13.58	13.00	2.49	2.06	33.63	29.00	1656
											28.00	2083
5.76	5.16	5.29	4.19	*14.64	15.00	*10.45	12.00	*1.38	1.65	24.01	25.00	1850
4.60	4.81	5.62	3.85	14.28	11.00	10.43	10.00	*2.01	2.06	26.76	27.00	2062
4.13	.75	2.69	8.99	12.43	12.00	3.44	.....	2.98	2.68	26.10	27.00	1992
7.55	6.40	3.69	2.24	12.33	.....	10.09	10.00	1.22	1.03	21.86	15.00	2396
											16.00	2236
											18.00	2507
7.70	4.82	7.57	.59	12.98	.....	12.39	10.00	1.17	1.03	23.13	16.50	1774
9.38	8.77	3.71	3.84	16.32	.....	12.48	12.00	1.66	1.65	27.67	14.50	2381
											21.00	2380
2.75	4.48	12.81	4.96	22.25	16.00	17.29	12.00	*1.66	2.47	32.92	28.00	1732

*Constituent falls below guaranty.

GROUND BONE

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	C. K. Ahrens, Esterly, Pa.	
1734	Bone Meal,	Thos. Haines & Co., Malvern,
	American Agricultural Chemical Co., New York.	
2166	Fine Ground Bone,	J. Stark, Ohio Pyle,
	American Reduction Co., Pittsburg, Pa.	
2223	Fine Ground Bone,	M. Schlosser, Saegertown,
	Baltimore Pulverizing Co., Baltimore, Md.	
1787	Pure Raw Bone,	J. E. Swueker, Newton Hamilton,
	Baugh & Sons Co., Philadelphia, Pa.	
1726	Fine Ground Bone	Brinton Walters, Parkesburg,
	Bowker Fertilizer Co., New York.	
2156	Bowker's Market Bone,	T. M. Smith, Waynesburg,
	Cambria Fertilizer Co., Johnstown, Pa.	
2177	Pure Ground Bone,	Wm. Reese, Willmore,
	The Coe-Mortimer Co., New York.	
1994	Coe's XXX Pure Ground Bone,	A. J. Norris & Bro., Culmerville,
	Jas. G. Downward Co., Coatesville, Pa.	
1768	Pure Ground Raw Bone,	T. N. Moyer, Perkasie,
	Griffith & Boyd, Baltimore, Md.	
1987	Bone Meal,	A. J. Norris & Bro., Culmerville,
	S. M. Hess & Bro., Philadelphia, Pa.	
2053	Ground Bone,	David Price, Everett,
	M. P. Hubbard, Baltimore, Md.	
1694	Pure Ground Raw Bone,	Peter Brough, Bakersville,
	Jarecki Chemical Co., Sandusky, O.	
2011	Ground Bone,	Pearce Milling Co., Gibsonia,
	Lister's Agricultural Chemical Works, Newark, N. J.	
2222	Bone Meal,	Mason & Mook, Meadville,
1993	Lister's Bone Meal,	A. J. Norris & Bro., Culmerville,
	D. B. Martin Co., Philadelphia, Pa.	
2250	Pure Raw Bone Meal,	Greencastle Elevator Co., Greencastle,
	Miller Fertilizer Co., Baltimore, Md.	
2344	Bone Meal,	G. W. Oster, Osterburg,
	Nassau Fertilizer Co., New York.	
2049	Fine Ground Bone,	A. M. McClure, Everett,
2543	Pure Ground Bone,	T. S. Balliet, West Penn,
	Patapsco Guano Co., Baltimore, Md.	
1780	Patapsco Ground Steamed Bone,	W. J. Hayes, Belleville,

†Composite sample.

FERTILIZERS.

Acid and Nitrogen.

Moisture in 100 pounds.	Mechanical Analysis.		Chemical Analysis.				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.	Sample number.
	Diameter less than 1-50 inch "fine."	Diameter greater than 1-50 inch, "coarse."	Phosphoric Acid.		Nitrogen.				
			Found.	Guaranteed.	Found.	Guaranteed.			
7.33	37	63	*23.27	23.33	4.30	3.90	32.37	27.00	1734
5.75	77	23	26.37	22.80	2.50	2.47	30.19	30.00	2106
2.80	68	32	22.80	20.00	1.77	1.65	24.78	26.00	2223
3.30	87	13	22.93	.....	2.59	.....	28.56	.....	1787
4.65	80	20	*16.31	16.49	2.82	2.47	24.37	27.00	1726
5.48	83	17	20.19	20.00	*1.43	1.65	22.44	26.00	2156
6.00	61	39	24.75	20.00	3.11	3.00	30.45	28.00	2177
7.95	55	45	25.97	25.00	*2.20	2.47	27.92	32.00	1994
4.50	56	44	23.28	20.00	*2.94	3.30	28.15	28.00	1768
5.29	76	24	18.61	.....	4.23	3.30	30.88	32.00	1987
4.35	58	42	21.15	20.00	3.44	3.30	29.08	31.00	2053
5.60	73	27	20.41	.....	2.42	.....	25.56	28.00	1694
3.69	58	42	30.62	20.00	*1.19	2.47	27.78	29.00	2011
4.47	47	53	25.51	23.00	3.51	2.68	31.65	30.00	2222
5.08	70	30	26.03	23.00	2.94	2.68	31.21	32.00	1993
5.60	57	43	22.74	21.00	4.03	3.71	32.14	30.00	2250
4.45	60	40	17.25	.....	2.65	.....	23.83	26.50	2344
3.35	77	23	24.57	22.80	*2.45	2.47	28.76	30.00	2049
5.60	77	23	*20.52	20.60	3.61	3.30	29.95	30.00	2543
4.12	80	20	23.41	23.00	2.86	2.47	29.48	.....	1780

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
1979	Patapsco Pure Ground Bone,	R. J. Mathers, Morganza,
	Pittsburg Provision and Packing Co., Pittsburg, Pa.	
1870	Crescent Butchers' Ground Bone,	D. J. Davis, Ebensburg,
1972	†No. 1 Pure Raw Bone Meal,	Geo. H. Hegner, Sewickley,
1871		D. J. Davis, Ebensburg,
1984		W. C. Beckert, Allegheny,
	The Pollock Fertilizer Co., Baltimore, Md.	
2438	Ground Animal Bone,	John Hicks, Kelton,
	Pugh & Lyons, Oxford, Pa.	
2417	Ground Raw Bone,	S. R. Dickey & Co., Oxford,
	Rasin-Monumental Co., Baltimore, Md.	
1706	Pure Raw Bone,	C. R. Aukeny, Boswell,
	Reading Bone Fertilizer Co., Reading, Pa.	
2176	Pure Bone Meal,	A. F. Stutzman, Johnstown,
2659	Pure Raw Bone,	A. E. Sponsler, Everett,
	Chas. A. Siekler & Bro., Wilkes-Barre, Pa.	
1939	Pure Ground Bone,	M. McVicar, Foster,
	I. P. Thomas & Son Co., Philadelphia, Pa.	
1848	Pure Ground Animal Bone,	Wm. Miller, Manor Hill,
	Tuscarora Fertilizer Co., Baltimore, Md.	
2550	Animal Bone,	A. J. Norris & Bro., Culmerville,
	Union Chemical Works, North Wales, Pa.	
2026	Raw Bone Meal,	H. B. Horst, Prescott,
	F. K. Walt Co., Supplee, Pa.	
2400	Ground Animal Bone,	R. A. Richards & Co., Mendenhall,
	Robt. A. Wooldridge Co., Baltimore, Md.	
2150	Wooldridge Pure Raw Bone,	C. C. Catharman, Hartleton,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Mechanical Analysis.		Chemical Analysis.				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.	Sample number.
	Diameter less than 1-50 inch "fine."	Diameter greater than 1-50 inch, "coarse."	Phosphoric Acid.		Nitrogen.				
			Found.	Guaranteed.	Found.	Guaranteed.			
6.45	83	17	21.22	20.62	3.85	3.71	31.58	30.00	1979
2.80	80	20	*15.35	16.00	3.03	2.47	24.58	25.00	1870
5.63	67	33	*24.39	26.09	*3.70	3.71	32.55	31.00	1972
								29.00	1871
								32.00	1984
6.00	69	31	23.06	22.00	3.74	3.30	31.89	26.25	2438
5.40	52	48	23.10	20.00	3.73	3.30	31.14	30.00	2417
8.30	53	47	22.71	21.52	4.09	3.71	32.10	30.00	1706
3.25	65	35	20.71	18.32	3.49	2.47	29.26	29.00	2176
3.80	58	42	*17.39	18.32	*3.01	3.30	25.05	30.00	2059
3.10	81	19	27.32	22.00	2.78	2.47	32.05	30.00	1939
4.10	73	27	26.51	21.06	*2.50	3.30	30.12	27.50	1848
3.30	67	33	24.06	24.00	2.85	2.47	29.37	29.00	2550
6.05	46	54	*19.16	22.00	4.88	3.30	32.12	29.00	2026
5.20	50	50	*20.19	24.00	4.47	.....	31.50	28.00	2400
6.85	44	56	22.16	20.61	3.58	3.30	29.62	31.75	2150

*Constituent falls below guaranty.

ACIDULATED

Furnishing

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	American Agricultural Chemical Co., New York.	
2112	Canton Chemical Baker's Dissolved Bone Phosphate.	T. F. Jacobs, Somerfield,
2445	Cumberland Dissolved Bone Phosphate,	E. O. Green, Warren Center,
2332	Great Eastern Dissolved Bone,	John Fox, New Stanton,
1889	Milsom's Dissolved Bone Phosphate,	Smith & McKelvy, Blairsville,
1628	Moro-Phillips Soluble Bone Phosphate,	L. S. Imler, Imler,
2041	Wheeler's Unammoniated Wheat Grower,	H. E. Huston, Saltillo,
1878	Williams & Clark Acorn Acid Phosphate,	J. W. Harbison, Indiana,
2160	Zell's Dissolved Bone Phosphate,	Gordon & Longenecker, Waynesburg,
	Lazaretto Branch, New York.	
2076	Lazaretto Dissolved Bone Phosphate,	Hanover Produce Co., New Oxford,
	Maryland Branch, New York.	
2257	Maryland Dissolved S. C. Phosphate,	Nicodemus & Hockman, Waynecastle,
	Standard Branch, New York.	
2038	Standard Dissolved Bone Phosphate,	C. E. Stair, Three Springs,
	Susquehanna Branch, New York.	
2245	Soluble Bone Phosphate,	Geo. Walker & Co., Chambersburg,
2253	Superior Rock Phosphate,	C. M. Horst & Bro., Franklin county,
	Wheeler Branch, New York.	
2255	Wheeler's Electrical Dissolved Bone,	F. Miller & Son, Waynesboro,
	Baugh & Sons Co., Philadelphia, Pa.	
2252	16 Per Cent. Acid Phosphate,	C. M. Horst & Bro., Franklin county,
	Bowker Fertilizer Co., New York.	
1852	Apex Bone Phosphate,	B. F. Fink, Huntingdon,
2159	Bowker's Soluble Bone,	T. M. Smith, Waynesburg,
	Henry Cope & Co., Lincoln University, Pa.	
2420	Acid Phosphate,	Wm. K. McClurg, Oxford,
	Griffith & Boyd, Baltimore, Md.	
1717	H. G. Acid Phosphate,	M. W. Hunter, Livermore,
1874	Original Super Phosphate,	A. W. Glenn, Garmantown,
	Hardy Packing Co., Chicago, Ill.	
2561	Ft. Dearborn Phosphate,	H. E. Hartford, Negley,
	W. S. Hastings & Sons, Atglen, Pa.	
1731	†Clear Acid Phosphate,	W. S. Hastings & Son, Atglen,
2469		
	S. M. Hess & Bro., Philadelphia, Pa.	
1865	†High Grade Acid Phosphate,	Jno. M. Bush, Mt. Union,
1828		John P. Bream, Idaville,
1910		U. Cassel, Hummelstown,
1831	Soluble Bone Phosphate,	John P. Bream, Idaville,
	Hubbard Fertilizer Co., Baltimore, Md.	
2154	High Grade Soluble Tennessee Phosphate,	Wm. Thompson, Jr., Lemont,
	Jarecki Chemical Co., Sandusky, O.	
2200	C. O. D. Phosphate,	H. B. Edwards, Titusville,
	Lister's Agricultural Chemical Works, Newark, N. J.	
1891	Buyers' Choice 14 Per Cent. Acid Phosphate.	G. W. Martin & Co., Saltsburg,

†Composite sample.

ROCK PHOSPHATES.

Phosphoric Acid.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.				
				Found.	Guaranteed.	Found.	Guaranteed.			
7.40	5.27	8.29	2.47	16.03	15.00	13.56	*14.00	14.52	16.80	2112
1.30	12.75	3.86	.55	17.16	15.00	16.61	14.00	16.89	18.00	2445
9.94	4.00	7.32	.92	*12.24	15.00	*11.32	14.00	12.18	.....	2332
8.84	7.52	4.58	.87	*12.97	13.00	12.10	12.00	13.12	14.00	1889
10.05	5.56	6.42	3.64	15.62	15.00	*11.98	14.00	13.80	14.00	1628
7.60	9.84	4.82	.81	15.47	13.00	14.66	12.00	15.22	14.00	2041
10.55	7.23	6.12	1.05	*14.40	15.00	*13.35	14.00	14.07	15.00	1878
7.45	10.48	3.43	.81	*14.72	15.00	*13.91	14.00	14.76	16.00	2160
11.50	6.84	7.16	1.90	15.90	15.00	14.00	14.00	14.79	13.50	2076
10.55	8.98	5.46	1.86	16.30	15.00	14.44	14.00	15.36	12.50	2257
8.10	9.57	5.71	1.08	16.36	15.00	15.28	14.00	15.73	15.00	2038
9.05	11.50	4.01	.43	15.94	15.00	15.51	14.00	15.91	13.00	2245
8.50	8.36	6.31	1.47	16.14	15.00	14.67	14.00	14.10	13.50	2253
6.50	10.38	4.43	1.15	15.96	15.00	14.81	14.00	15.52	12.50	2255
10.55	13.27	3.41	.19	16.87	.....	16.68	16.00	16.86	14.50	2252
12.43	5.14	5.09	1.13	11.36	10.00	10.23	9.00	11.60	13.00	1852
8.15	10.22	4.18	2.37	16.77	15.00	14.40	14.00	15.88	16.00	2159
3.40	6.94	7.36	1.45	15.75	15.00	14.30	14.00	14.86	12.50	2420
9.95	12.42	3.93	.41	16.76	15.00	16.35	14.00	16.60	14.50	1717
7.50	5.66	7.82	2.11	15.59	13.00	13.48	12.00	14.36	16.00	1874
2.70	.41	6.01	1.61	8.03	.....	*6.42	10.00	8.48	17.00	2561
9.40	8.12	5.89	2.22	16.33	.....	14.01	14.00	15.13	13.00	1731
									12.50	2469
8.25	9.66	4.52	.69	*14.87	15.00	14.18	14.00	14.80	14.00	1865
8.00	9.59	4.86	.48	*14.93	15.00	14.45	14.00	14.94	13.50	1828
									13.50	1910
									15.00	‡1831
10.38	14.28	2.62	.05	16.95	.....	16.90	14.00	17.11	13.00	2154
10.77	9.13	6.73	1.32	17.18	15.00	15.86	14.00	16.19	15.00	2200
9.78	10.33	5.02	1.09	16.44	15.00	15.35	14.00	15.90	15.00	1891

*Constituent falls below guaranty.
‡Also guaranteed to contain 1.60 per cent. nitrogen; found .09.

Sample number.	Manufacture and Brand.	From Whom Sample Was Taken.
	D. B. Martin Co., Philadelphia, Pa.	
2373	Acid Phosphate,	H. S. Vogel, Manheim,
	Nassau Fertilizer Co., New York.	
1699	Soluble Bone Phosphate,	Levi Long, Rockwood,
	G. Ober & Sons Co., Baltimore, Md.	
2225	Dissolved Bone Phosphate,	G. W. Altland, York,
	Patapsco Guano Co., Baltimore, Md.	
1687	Battle Ax Phosphate,	Andrew Rishel, Myersdale,
1626	Patapsco Pure Dissolved S. C. Bone,	L. H. Musser, Bellefonte,
1980	Patapsco Pure Dissolved S. C. Bone,	R. J. Marters, Morganza,
	Pennsylvania Fertilizer Co., Buffalo, N. Y.	
1880	Acid Phosphate,	J. R. Henderson, Indiana,
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.	
2340	Piedmont H. G. S. C. Bone,	N. S. Davis, Hopewell,
	Pittsburg Provision and Packing Co., Pittsburg, Pa.	
2128	†Acid Phosphate,	W. M. Davis, Greensboro,
2328		B. Way, Freeport,
	The Pollock Fertilizer Co., Baltimore, Md.	
1604	Dissolved S. C. Bone,	Elmer C. Ross, Lemont,
	Rasin-Monumental Co., Baltimore, Md.	
1609	Rasin Acid Phosphate,	J. H. and S. E. Weber, Oakhall,
	Sanera Natural Guano Co., Camden, N. J.	
2351	Sanera Natural Guano,	D. G. Gross, Monocacy,
	Scott Fertilizer Co., Elkton, Md.	
1669	Tip Top Soluble Bone,	Elias S. Brubacher, Richland,
	Southern Fertilizer Co., York, Pa.	
2342	†Dissolved Bone Phosphate,	Lee Fury, Loysburg,
2452		Harry Baxter, Gap,
	James Thomas, Williamsport, Pa.	
1924	Dissolved Florida Bone Phosphate,	T. S. Green, Canton,
	J. E. Tygert Co., Philadelphia, Pa.	
1659	Tygert Acid Phosphate,	Adam Brown, Myerstown,
	F. K. Walt Co., Supplee, Pa.	
2403	A. A. Acid Phosphate,	R. A. Richards & Co., Mendenhall,
	Robt. A. Wooldridge Co., Baltimore, Md.	
1611	Wooldridge Florida Acid Phosphate,	Wesley Tate, Bellefonte,
	Virginia Carolina Chemical Co., Richmond, Va.	
2100	V. C. C. Co.'s 14 Per Cent. Acid Phosphate,	E. Hoffman, Dover,
	York Chemical Works, York, Pa.	
2242	†Dempwolf's Dissolved Phosphate,	Daniel Hunsecker, Chambersburg,
1608		Elmer Musser, Pine Grove Mills,
2268		Gochenour & Cook, Dillsburg,

†Composite sample.

PHOSPHATES—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.				
				Found.	Guaranteed.	Found.	Guaranteed.			
9.93	10.81	4.09	1.06	15.96	.....	14.90	14.00	15.62	13.50	2373
8.60	6.91	6.40	1.78	15.09	15.00	*13.31	14.00	14.25	14.00	1699
12.40	13.29	2.54	.06	15.89	15.00	15.83	14.00	16.23	13.25	2225
8.38	6.23	6.57	3.00	15.80	13.00	12.80	12.00	14.25	14.00	1687
8.99	8.80	5.02	1.26	15.08	15.00	*13.82	14.00	14.68	.....	1626
12.00	6.57	6.57	2.26	15.40	15.00	*13.14	14.00	14.28	15.00	1980
12.25	5.70	5.62	3.16	14.48	13.00	*11.32	12.00	13.09	14.00	1880
11.45	12.29	2.28	.13	14.70	.....	14.57	14.00	15.22	14.50	2340
2.00	2.32	8.68	3.83	14.83	14.00	*11.00	13.00	12.79	16.00	2128
									15.00	2328
11.08	9.78	4.33	.77	*14.88	15.00	14.11	14.00	14.84	13.25	1604
11.30	9.26	3.73	2.22	15.21	15.00	*12.99	14.00	14.47	.....	1609
4.50	.12	3.43	8.65	12.20	10.00	3.55	.....	8.89	20.00	2351
12.65	7.24	6.53	1.53	15.30	.....	*13.77	14.00	14.55	13.84	1669
7.05	9.52	5.10	.73	15.35	15.00	14.62	14.00	15.13	13.50	2342
									12.00	2452
2.90	8.94	4.47	1.78	15.19	14.00	13.41	12.00	14.58	13.50	1924
9.17	7.45	6.81	.57	*14.83	15.00	14.26	14.00	14.58	12.50	1659
10.65	10.02	6.20	1.29	17.51	17.00	16.22	16.00	16.53	13.50	2403
6.73	7.84	6.52	1.59	15.95	15.25	14.36	14.00	15.06	.....	1611
11.75	9.64	4.08	1.39	15.11	15.00	*13.72	14.00	14.73	13.50	2100
7.10	6.68	7.01	2.12	15.81	14.50	*13.69	14.00	14.62	12.75	2242
									.....	1608
									13.00	2268

*Constituent falls below guaranty.

MISCELLANEOUS

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	The Coe-Mortimer Co., New York.		
1988	Thomas' Phosphate Powder Basic Slag Phosphate.	A. J. Norris & Bro., Culmerville, ...	.10
	Pittsburg Provision and Packing Co., Pittsburg, Pa.		
1869	Pure Bone and Meat, ...	D. J. Davis, Ebensburg, ...	10.97
	Jacob Reese, Philadelphia, Pa.		
1772	*Odorless Slag Phosphate, ...	John Hamilton, State College, ...	.20
2411	*Odorless Slag Phosphate, ...	S. G. Brinton, West Chester, ...	.03
	E. J. Young Packing Co., Washington, Pa.		
1967	Dried Blood and Bone, ...	Geo. Cameron, Washington, ...	4.80

†Composite sample.

*As there is little information concerning this material and as the substance is quite subject to variation these samples were analyzed separately rather than from a composite sample.

FERTILIZERS.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen				
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.	Computed commercial value of 2,000 pounds at Department rating	Selling price of 2,000 pounds at the point of selection.	Sample number.
.....	.....	.....	17.17	17.00	†	.....	.....	.....	.....	.....	.....	.....	.....	23.00	1988
.....	.....	.....	9.63	8.00	.....	.....	.....	.....	.....	.....	7.75	4.94	38.05	28.00	1869
.....	.....	.....	20.33	19.01	†	.....	.....	.....	.....	.....	.....	.....	.....	.....	1772
.....	.....	.....	20.61	19.01	†	.....	.....	.....	.....	.....	.....	.....	.....	15.25	2411
.....	.....	.....	14.03	12.15	.....	.....	.....	.....	.....	.....	5.73	5.40	34.05	25.00	1967

*Constituent falls below guaranty.

†There is in America no method for determining the available phosphoric acid in slag phosphate.

The method used in case of dissolved rock and bone is inadequate for the purpose in case of basic slag.